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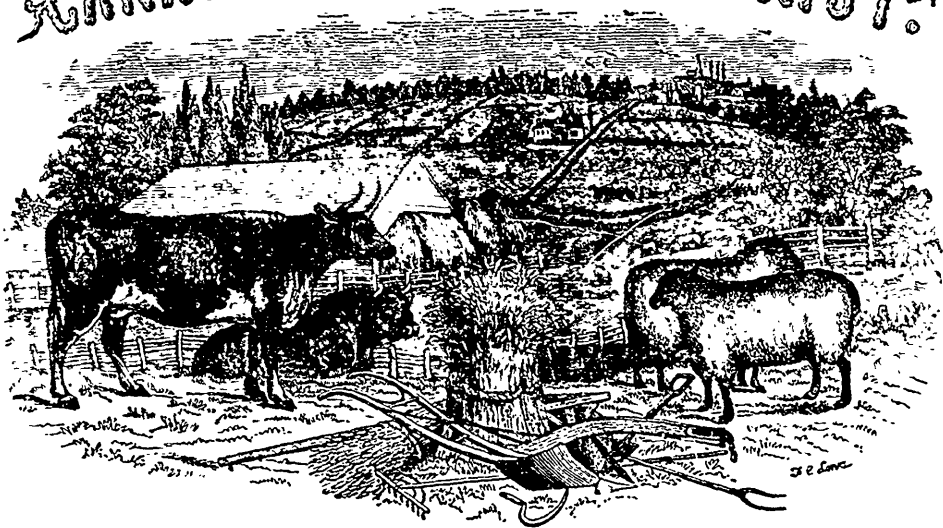
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CANADIAN AGRICULTURIST.



"The profit of the earth is for all; the King himself is served by the field."—ECCLES. v. 9.

GEORGE BUCKLAND, {
WILLIAM McDOUGALL, }

{ EDITOR,
{ ASSISTANT EDITOR.

VOL. III.

TORONTO, AUGUST, 1851.

No. 8.

The Canadian Agriculturist.

Published Monthly, at Toronto, C. W.

TERMS:

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HINTS RELATING TO THE PROVINCIAL EXHIBITION.

To the Editor of the Canadian Agriculturist.

DEAR SIR,

As we have changed the days for holding the Provincial Agricultural Exhibition, in consequence of the New-Yorkers taking up our regu-

lar time with their show, let me hope that you will exert your means, through the *Agriculturist*, to make our Farmers acquainted with the fact, otherwise it may lead to much confusion.

By reference to our Premium List, which is now printed and being circulated, the Farmers and Mechanics will find that we have very much increased the amount, and number of prizes.

While on the subject of the fair allow me to offer a few suggestions, which, I think, if carried out, would be of service to all parties.

I would recommend that farmers exhibiting grain, roots, and stock, should send all those articles with the view of disposing of them, after judgement had been pronounced; and that all parties should go with the determination of bringing something new or improved home with them. For instance, I have superior spring wheat, and another may have barley, oats, or pease, or something else better than my neighbourhood can produce, well, we exchange, and one or other pays the difference. He carries into his county what will improve it, and so do I, and in the same

way, stock, implements, and small seeds could be exchanged; the principle might indeed be carried out with advantage to the most insignificant article exhibited. I, for one, have never returned from the Provincial fair without buying something, (and I have attended all) but I must in justice say that I have once or twice fallen in with wooden nutmegs for my money; but with common caution such things may be avoided. And where can a farmer procure better seed wheat than that exhibited for the *Canada Company's Prize*? A friend of mine bought up three lots for seed, at Niagara, last year, and went on purpose; but this year it will be too late. I will, however, buy a spring or yearling Durham Bull, and a Leicester ram lamb; and I have no doubt that many hundreds will go with similar intentions. So go prepared to supply what your neighbours require and fetch home what you require yourself.

My next neighbour last fall bought a sow pig at 50s. and it cost him 25s. to get it home, and I thought it dear when I saw it. Since then I bought one of her pigs at 40s. and seven more are sold at the same price. She had twelve for the first time, but four she smothered. The pigs amount to sixteen pounds and the sow could not be bought for less money!

Yours &c.,

R. L. DENISON.

Denison Terrace, }
July, 7 1851. }

IMPROVED BREEDS OF CATTLE.

Woodstock, July 21st, 1851.

SIR,

Any one reading Mr. Parson's spirited and able letter, in your last number, must have been pleased at the skill he shows in defending his favourite breed of cattle; but, as he very justly remarks, a series of experiments on the virtues of the different breeds can alone determine the question. Would it not be well if those who raise the different breeds would favour the public through the medium of your paper, with short memoranda stating the *nature of farms and soils*, average quantity and quality of milk, &c. I am afraid we could not obtain the average weight of carcase, and when ripe for the butcher, for they are worth more as yet for breeding than for killing. In my opinion Mr. Parson and Mr.

Tye are both right. You may call it a bull, but as it is said that when two parties fall out they are both in the wrong; surely they must be both partially right. In England, the idea of one breed of cattle being good for every situation has long been cast aside. It was but to day I saw it decided in the *Agricultural Gazette*. Does not the same thing hold good here? On rich level farms near towns where butcher's meat in quantities, and yet of fair quality is required, the *Durhams* are undoubtedly the best; but on rough hilly farms the heavy Durham would not be able to pick up a very good living, whilst the light and active *Devon* would thrive and fatten. Such a farm as my own I would instance, which I took possession of at the beginning of last year, small, rough and hilly, most thoroughly worn out by the last occupant, having about five acres of Indian grass, and the rest bare stubble, bearing nothing but burrs, thistles and raspberries; soil light, in fact, bought merely on account of its presenting a good site for a house. Upon such a farm a heavy Durham would starve, but two or three Devons (purchased from Mr. Tye,) live, grow fat, and milk well. As an experiment I made from one gallon of milk, one-half a pound of butter, the afternoon's milking, two months after calving, which I think shows pretty good quality of milk, and my Devon cows present a wonderful and pleasing superiority in flesh over a native cow that runs with them. Again, if you give a greater price for your Durham cows, you run the greater risk, and a Devon cow at \$50 is more likely to realize her value if thrown out of breeding by an accident than a Durham at \$150, not to mention the fact of the latter being more subject to that very annoying disease. It would, however, be of immense advantage to a man who wishes to invest in improved stock, to be able to choose the proper subjects for purchase in his own particular case, which the plan I have proposed would, I think, assist him in. I am afraid my letter is a long one, but the great interest I take in farming, and especially in live stock must be my excuse.

And remain Sir,

Yours faithfully,

A HAMILTON FARMER.

P. S. Is it not stated in *Youatt's* work on *British Cattle*, that Mr. Bakewell's improved long horns were *inferior* to the stock they sprang from as milkers. I have not the book at hand just now to refer to, but such is my impression.

A. H. F.

SALES OF IMPROVED STOCK.

Thinking it will be interesting to our readers we give below some details of the sales of Messrs. Morris and Vail, as advertised in our previous numbers. The report of Mr. Vail's sale is taken from the *Rural New-Yorker*. We are glad to observe that several animals belonging to these two eminent breeders were purchased by parties on this side the lines, and could have wished the number had been greater. A friend of ours who attended both sales, and who has had an extensive experience in these matters, informs us that the arrangements were of the most satisfactory character; strongly reminding one of the way such things are managed in the Old Country, where annual sales of live stock have been attended with such wide and signal advantage. It is satisfactory to know that both Mr. Vail and Mr. Morris have reserved a number of very superior animals for breeding purposes; so that the public may expect an increasing interest being felt in their annual sales for the future.

MR. VAIL'S GREAT SALE OF SHORT HORNS,
TROY, NEW YORK.

The sale of a part of Mr. Vail's celebrated herd of Short-horns took place on Thursday, June 26, 1851. The assembly of persons was not large, but was composed of many of our first breeders, not only from this country, but from Canada also. The animals were in good condition, and although the prices they brought were not *extravagant*, yet they were such as to give great encouragement to breeders of Short-horns. It was generally considered the most satisfactory sale ever made in this country, and proves conclusively that the time is not far distant when the Short-horns will be generally appreciated according to their true merit. The animals for sale were each labelled in the morning, with the name and number of the lot, which gave a fine opportunity for persons to examine the herd at their leisure. At about 11 o'clock the animals were arranged in the grove near the cottage, and tied. This gave an opportunity for still closer examination. At 12 o'clock the company were invited to partake of an excellent lunch; and at about 1½ o'clock the sale commenced. Mr. Miller, the auctioneer, acquitted himself admirably, and in less than two hours the animals were all sold. There were thirty-three animals sold

(including two at private sale,) which brought the sum of \$4,170.

Below will be found a synopsis of the sale, the price each animal brought, together with the name of the purchaser.

COWS AND HEIFERS.

Name.	Calved.	Price.	Purchaser.
Lilly 2d	1845	\$170	Gen. Cadwallader
" 3d	1848	135	H. Wells, Cay'g co
" 4th.	1849	90	Gen. Cadwallader
" 5th.	March '51	165	do.
Fun	Sept '44	235	H. Wells.
Dahlia 5th	April '49	75	Gen. Cadwallader.
Eunice 2d	July 1840	160	do.
" 3d	Aug. 1843	125	J. Osborne On'd co.
Wilddame 4th	1848	220	Gen. Cadwallader.
" 5th*.	Feb. 1851	55	do.
Daisy 3d.	1844	230	S. P. Chapman.
" 5th	1849	150	Gen. Cadwallader.
Fill-Pail 5th	1849	95	do.
Victoria 4th	May 1847	90	H. Wells.
Rosette 2d	1847	175	Gen. Cadwallader.
" 3d	Sep. 1849	80	Wm. Osborn.
" 4th	Aug. 1850	105	Gen. Cadwallader.
Yellow Ekin	June 1849	110	do.
Willey	1837	90	do.
Profitable 2nd	Aug. 1849	125	H. Wells.
Victoria 5th.	April '51	75	Gen. Cadwallader.
Beauty	1851	90	Wm. Osborn.
Red Lady	1851	60	Gen. Cadwallader.
Fill-Pail 6th.	1850	90	J. B. Wilson, Wis.

AT PRIVATE SALE TWO BATES HEIFERS.

Lady Barrington 5th. —	1849	\$350	Mr. Remming'n Pa
Hilpa 4th	1851	300	S. P. Chapman.

BULLS AND BULL CALVES.

Duke of Wellington †	Oct. 1839		
Meteor †	July 1841		
Bippo 3d.	Sept '48	140	Dr. Richmond, C W
Leopold	Oct. 1849	50	Mr. Cameron, "
Grand Duke	Feb. 1850	95	Wm. Osborn.
Falcon	Sep 1850	90	Dr. Richmond.
Marquis	Aug 1849	60	do.
White Face	April 1851	55	F. Yates.
Fashion	1851	30	Gen. Cadwallader

* This calf sick. † Dead. † Not sold.

SUMMARY OF THE SALE.—Thirty three animals sold for \$4,170; average per head \$126.

Twenty-five Cows, Heifers and Heifer Calves, \$3,650; average per head \$146.

Eighteen Cows and Heifers \$3,010; average per head \$167.

S. P. C.

(To the Editor of the *Canadian Agriculturist*.)
Mount Fordham, N. Y., }
June 28, 1851. }

Sir,

I send you a correct statement of my Sale for publication, should you wish to insert it.

The thorough bred Short horns were very few and such as I could spare from my herd. Nbs.

4 and 10 were starred animals and not recommended. Take those out of the lot and the cows, Heifers and heifer calves, 10 in number averaged \$104 12½ per head. It will now be seen that I have cleaned all animals off my farm except thorough breeds of each kind, and I wish, to be put on record as such hereafter.

My thorough bred Bulls and Bull calves, 4 in number, averaged \$126 12½ per head.

The improved dairy stock consisting of cows, heifers, and heifer calves, 20 in number, averaged \$78 87 per head.

Grade Bull calves, 3 in number, averaged \$80 per head.

Suffolk Pigs, 23 in number, dropped from the 7th to the 10th of April last averaged as follows:—

- 9 Pair of pigs averaged per Pair \$27 23.
- 5 Single Boar Pigs per head 16 60.
- 1 Sow in pig, do 30 00.

Buck Lambs, 5 in number, lambled from the 21st March to 19th April, averaged per head \$29 00

The sale was strictly a fair one as to bidding without any underhand arrangements for running up or whipping the Devil round the stump. Many of the animals sold for half their value, on the whole I was satisfied as a second annual sale.

Yours, &c.,
L. G. MORRIS.

STATEMENT OF L. G. MORRIS'S SECOND ANNUAL SALE ON THE 24TH JUNE, 1851.

Thorough bred Short Horn Cows, Heifers and Heifer Calves.

- Lot 1, York, Gen. Cadwallader, Philadelphia, \$110 00
- 2, Cleopatra, 9 years old, do do 85 00
- *4, Coquette, 4 years, E. H. Smith, Smithtown, 50 00
- 5, Red Lady, 4 years Gen. Cadwallader, Philadelphia, 175 00
- 6, Eleanora, 4 years, do do 135 00
- 8, Miss Rolfe, 2 years, A. Van Ingen, Jr. 105 00
- 9, Fame, 16 months, Gen. Cadwallader, Philadelphia, 60 00
- *10, Red Rose, 15 months, G. Hopkins, Long Island 30 00
- 11, Kate, 5 months, G. G. Hubbard, West Needham, Mass. 140 00
- 12, Lily, 3½ months, Joel Tirrell, Oswego, 80 00
- 13, Beulah, 2½ months, Gen. Cadwallader, 55 00
- 14, Pochontas, 11 years, Henry Parsons, Canada West, 100 00

IMPROVED DAIRY STOCK.

Cows, Heifers, and Heifer Calves.

- 15, Beauty, 6 years, Dr. A. Smith, New Rochelle, 105 00
- 16, Sue 3 years, Richard Lewis, New York, 100 00
- 17, Watson, Henry Parsons, Canada West, 80 00

- 18, Strawberry, Gen. Cadwallader, Philadelphia, 75 00
- 19, Bess, 6 years, G. Hopkins, Long Island, 65 00
- 20, Gazelle, 4 years, G. W. Thacker, Pelham 105 00
- 21, Alarm, 4 years, John Rao, Morrisania, 37 50
- 22, Lady Independence, 3 years, Robert Segoin, Richmond Co. 67 50
- 23, Miss Stewart, 2 years, James Robertson, Peekskill, 70 00
- 24, Harlem Maid, 2 years, Gen. Cadwallader, Philadelphia, 75 00
- 25, Lady Canning, 2 years, G. G. Wilmerding, Suffolk Co. L. I., 120 00
- 26, Marietta, 2 years, Gen. Cadwallader, Philadelphia, 70 00
- 27, Sabina, 2 years, Dr. Smith, N. Rochelle, 77 50
- 28, Miss Mary, 19 months, Robert Segoin, Richmond County, 75 00
- 29, Bessie, I. I. Mapes, New Jersey, 35 00
- 30, Clarn, 14 months, Robert Segoin, Richmond county, 30 00
- 31, Lawra, 10 months, Gen. Cadwallader, Philadelphia, 30 00
- 32, Lucy, Gen. Cadwallader, Philadelphia, 37 50
- 33, Helen, 3½ months, Morris Ketchum, N. York, 100 00

Short Horn and Ayrshire Cows.

- 34, Countess, 4 years, Gen. Cadwallader, Philadelphia, 32 50
- 35, Jeanne, 2 years, Morris Ketchum, N. Y. 30 00
- 36, Betty Merryman, 9 mo's, P. R. Paulding Tarrytown, 60 00

Nearly Thorough Bred Dutch.

- 37, Julia Edgar, Lewis Livingston, Rhinbeck Dutchess co., 120 00
- 38, Dinah, do do do 37 50

Oxen.

- 39, 1 Yoke of Oxen, S. T. Wright, 145 00

Bulls and Bull Calves—Thorough Bred

Short Horn.

- 1, Logan, 23 months old, Oliver Slate, Jr. Throgs Neck, 175 00
- 4, Mark Anthony, 4 months, J. B. Wilson, Wisconsin, 135 00
- 5, Passaic, 2 months, Joel Tirrell, Oswego, 50 00

Slightly crossed With Amsterdam Dutch.

- 6, Pontiac, 19 months, J. G. Godwin, Kingsbridge, 70 00
- 7, Red Rover, 4½ months, T. C. Rives, Virginia, 105 00
- 8, Medley, 11 mo's., Edward Biddle, Rockaway, N. J., 65 00

Pure Breed Devon.

- 10, Barton, 16 months, Gen. Cadwallader, Philadelphia, 145 00

Buck Lambs.

- 1, Buck Lamb, 3 months, Aaron Clements, Philadelphia, 30 00
- 2, do 2½ months Edward G. Faile, West Farms, 30 00
- 3, do 3½ months, Lincoln Brooks, Providence, R. I., 30 00
- 4, do 3½ mos., Gen. Cadwallader, Philadelphia, 30 00
- 4, do 2 months do do 25 00

Swine.

- 1, Pair Pigs, Henry Parsons, Canada West, 37 50
- 2, do Gen. Cadwallader, Philadelphia, 30 00
- 3, do Churchville, 30 00
- 4 & 5, Two Pairs of Pigs, G. G. Hubbard,

West Needham, Mass,	50 00
6, One pair of do Captain Spencer,	20 00
7, One Pair of Pigs, Thomas Hancock, Burlington N. J.,	20 00
8, do Henry Parsons Canada West,	30 00
9, do Aaron Clements Philadelphia,	27 50
10, Single Boar Pig, Lewis Livingston, Rhinebeck, Dutchess co.	17 00
11, do Gen. Cadwallader, Philadelphia,	17 00
12, do J. B. Wilson, Wisconsin,	17 00
13, do Thomas Hancock, Burlington, N. J.,	16 00
14, do Lincoln Brocks, Providence, R. I.,	16 00
All the above Pigs were dropped from the 7th to the 10th of April, last.	
15, One Sow in pig 9 months old, G. G. Hubbard, West Needham, Mass.,	30 00

FLAX MACHINERY—VALUE OF MARL, &c.

To the Editor of the Canadian Agriculturist.

SIR,

I see by the Old Country papers, that Mons. Claussen has advertised to license his patent for preparing flax. Forty years since, Mr. Lee of Enfield, near London, took out a patent for preparing flax in its dry state, as pulled. At that time I was engaged with a party who were promised a license by Mr. Lee, and they in consequence sowed many acres to flax. I left that country and heard no more of the patent; but subsequently I saw quoted Mr. Lee's recommendation of sowing two bushels of salt per acre with flax, in the old *Farmer's Journal*; and I think also by Sir John Sinclair, in the *Code of Agriculture*. The sample of flax that I saw which had been prepared according to Mr. Lee's process was of a beautiful white silky texture, and believe that Mr. L. failed to enrich himself, solely through a deficiency of tact in fringing his patent into notice. I understand that the machinery and bleaching were both unexpensive. This patent is now public property; enquiry regarding it, by the Board of Agriculture, might tend to procuring an expeditious and cheap method of working flax, and of advantage to this Province.

You recently recommended the application of Marl to a Gwillimsbury correspondent, and 2 years since, I saw a notice to M. M., directing him to apply 30 bushels per acre, which allowance I thought very narrow.* Considering the durability, value, and abundance of Marl, I cannot account for its not being generally applied to land. We seldom laid less than 20 cart loads per acre, which lasted for as many years; in many instances, however, making the first few crops drunk with exuberance. In the deep lands, from firmer estuaries, a less quantity sufficed. Professor Johnston, in one of his lectures, states

that in Hampshire he has seen the crop of wheat doubled by the application of Chalk. As Sir J. Sinclair remarks of Lime to Peat, that a second coat does no good within a few years, even where only half the usual quantity has been laid thereon in the first instance; so with Marl, a second coat does no good until after the lapse of 12 or 15 years. A remarkable instance of the fertilizing property of a subsoil is given in the *Albany Cultivator*, vol. v, p. 297, by Mr. Holbrook, in describing the farm of Messrs. Lynde in Guildford, Vt. Two years since he (Mr. B. L.) commenced digging a cellar, and opened a trench about 14 feet wide, 18 feet deep, under the whole length of the barn, 70 feet. The earth taken out was all carried to the field and spread as a top dressing upon a moist piece of mowing land; the effect was truly wonderful, doubling the quantity of hay. One would not have supposed that earth taken out to the depth of 8 feet would have produced the effect; and it certainly affords a substantial proof of the benefit to be derived from barn cellars when the salts are annually saved and made available. With deference to Mr. Holbrook, I venture an opinion that the benefit derived was from the richness of the subsoil in calcareous earth; doubtless this subsoil also runs through a location. This fact points to the fertilizing property of many subsoils. In one of the concessions leading from Youge street to Weston, a steep hill has been cut through. Should business or pleasure lead you that road, you will see how rich in Marl the earth becomes the lower its sides descends. In Mr. Hind's lectures, he recommends 25 bushels of Lime per acre; this allowance too, approaches temperance, excepting however, the Magnesian lime of which that quantity is sufficient for one application, in preference to double the bulk, on account of its great causticity. Persons having farmed on the borders of the forest of Dean well know that 80 bushels per acre would render the soil sterile for seven years, and that it would grow nought else than quitch grass, or ferns. With other qualities of Lime this rule does not hold good. We once for experiment laid one bushel per rod, each of soaper's ashes and lime upon two acres of fallow, and at harvest saw no perceptible difference in the wheat crop. Soaper's ashes, however, are like strong drink, on some land, drawing all the good out of it with the first crop, leaving the ground unkind for years afterwards; but on other soils this manure proves permanently fertilizing as in firmer estuaries. Intemperance is beneficial, as the following will verify. When the British Army during the last war was concentrated near Plattsburg, the rum for consumption by the soldiers was stored in a

field which had been skinned time out of mind and would not return a new for an old one. On the precipitate retreat of the army the rum was all staved and the field inundated with the liquor. From that time it was remarkable for its fertility and so continued. My informant left when a young man; and this statement was afterwards confirmed by an older and permanent inhabitant from that part of the States. Excuse my poverty of language. Your pen may attract the attention of the Board of Agriculture to the value of Marl and may induce the Directors to offer Premiums for its application to land, in several locations, in order that its worth may be tested.

RAMBLER.

P. S. The parties who were concerned in Mr. Lee's patent, were Everett & Co., Bankers, London. This Bank dissolved, I believe, previous to 1820.

[* The per centage of Lime in Marls which constitutes their chief value as fertilizers, is very various. We have known 40 and even 50 or 60 cart loads applied per acre, in some parts of England. Our correspondent must have misunderstood the purport of our remarks. We have frequently applied from 100 to 150 bushels of chalk lime to the acre. In that case the dose was sufficient for a long rotation. Many of the Marls in Canada, possess a highly fertilizing power.—
EDITOR.]

PLEASURES OF AGRICULTURAL PURSITS—SUGGESTIONS RELATIVE TO THE PROVINCIAL PREMIUM LIST.

Wolf Island, Kingston, July 25, 1851.

(To the Editor of the Canadian Agriculturist.)

DEAR SIR,

There are few situations in human life in which a man can be employed more innocently, more honorably, and, to the world in general, more profitably, than that of the farmer. His life is (*ceteris paribus*) attended with fewer temptations than that of most other men, and in pursuing his calling to the utmost extent, he is not only not doing violence to any dictum of conscience, but is actually, when doing most to develop the resources of nature, doing most to advance the general interests of mankind in connection with the particular interests of himself. His occupation too is a healthy one; he breathes the healthful atmosphere of the country, treading on her green velvet carpet and canopied by her deep blue sky. The volume of nature lies open before him, and every blade, and shrub, and blossom has its mystery, and its history, and invites inquiry, and amply repays the humblest student of those laws which regulate its inward structure and external

mould. Then to a being ever changeable and ever changing, as is man, how beautifully consonant is nature—her endless varieties of productions—her ever varying seasons—the meadow and its grasses—the pasture and its flocks—the field and its grains and its roots—and the garden, its fruits and flowers—winter and summer and their intermediate changes—all endued with beauties of their own, where the eye is practised and the heart in tune.

But, alas! how have I rambled from my appointed task!

When honorable minds fired with enthusiasm for an honorable though a not duly appreciated, pursuit, lend their time and talents to its advance, we ought to be careful not unnecessarily to find fault; but is it not also characteristic of minds of the same stamp to listen to advice honestly given, and if acquiesced in, to amend what in a moment of haste may have been overlooked.

Now what, I may ask, is the practical end to be answered by demanding that each person competing for a prize should exhibit "two bushels," and not one bushel, of "Swedish turnips, red carrots, white carrots, long red mangel wurtzel, yellow globe, do., parsnips?" Or is such a regulation not calculated to prevent persons at a distance from bringing such cumbersome, heavy articles at all? Let us fancy an individual coming from the interior parts of the Huron or London districts with twelve bushels of roots! Why, it would not require many such loads to freight a ship. When the show was held in Kingston in '49, I, in accordance with the then regulation, exhibited a bushel of sugar beets, but was awarded only the second prize, though the person who obtained the first prize, my brother-in-law's gardener, actually exhibited only two roots, because as, I think, he told me he had but the two. I think I know the reason for adopting the regulation of the Board, but there are few people who cannot as easily, by extra and extravagant care, raise two bushels of good roots as easily as one. I live nearer than most people to the place of exhibition, but knowing what I do of the difficulty of conveying large heavy loads of things to boat, by boat, and from boat, I doubt if I shall be tempted, much as I should like to compete, to take two bushels of stuff of any one kind. Perhaps many will think with me, an alteration of regulation in this or other particulars might, if judged desirable, be signified through your paper and the public press, to the public generally.

Again, why have the Board ignored the existence of the long yellow mangel wurtzel, and on what grounds do they withhold a premium from it and confer one each of two other kinds actually named to the exclusion of it? Or why allow of one bushel of sugar beet being presented and yet demand two bushels of the aforementioned?

Again, it appears to me somewhat remarkable that, whilst Durham Cows are to be awarded prizes in their own peculiar class as contradistinguished from Devons, or Ayrshires; and that, whilst Leicester Sheep, and South Downs, are to have

each their own premiums. That Pigs should be classed under the one head of "Pigs," as if there was in reality no distinction between the large and the small breed—between the coarse-boned and the fine-boned—between the pig of early maturity and the pig which comes to its full growth and plumpness after many months. I possess the pig and the breed of pigs which took the first prize in the Province when I exhibited her; but to compare her young at six months or two years with a large boned Irish sow, or full grown Irish hog, without taking into consideration the amount of food consumed by each would hardly be fair. On this account (though I have a beautiful young boar, which Mr. Briggs of Kingston affirms, grew 44 lbs. in 22 days; and though I possess some beautiful sows of the Lord Radnor breed) it is yet dubious, if I shall go to the expense or trouble of exhibiting any of them, for the same reason that I should be unwilling to exhibit a Devon two year old bull where Durhams were allowed to enter the lists. In fact, on what principles could a comparison be instituted? If these were declared beforehand, then we might more clearly understand the matter and decide accordingly. I am, it is true, *only one*, but what influences or tends to influence one may influence many.

Again, I am told, that "a certificate must be produced to shew the breeding of *grade* animals." Now what can be the object of such a regulation? The *Thorough-bred* animals had all been provided for. Was it not, then, sufficient that *other* stock (not *thorough-bred*) should be allowed to compete as *such*, that is, as crossed (without the necessity of producing a pedigree), particularly as the cross (whether of Ayrshire, or Devon, or Durham,) was to make no difference in the matter of awarding the premium. There are "*grade*" animals (if I understand the term: and most people in this District, I think, understand it as I do) of every degree and of most uncertain origin,—half-bred, quarter-bred, eighth-bred—native crossed with Ayrshire, or half Ayrshire, and crossed again with Durham or Devon, or with half Devon or half Durham,—and because a certificate of breeding (often too readily to be obtained, if no conscientious scruple prevent its demand) cannot be procured, is a noble animal to be denied its merit, and a less noble or an ignoble one to obtain the reward, simply because the origin of the one was of later date, and could, therefore, be the more easily traced. Would this be just?

With these remarks you may not accord; but still, I hope, you will not refuse them a place in your journal. I was much pleased with the subject matter of Mr. Parsons letter in this month's "Agriculturist." I only regret that he has not entered more into the matter statistically. I hope the controversy will be continued, as it is one calculated to throw light upon the subject of breeding and cattle. I have not seen Mr. Tye's letter, the *Agriculturist* of last month not having come to hand (so far as I have been able to ascertain,) and this last number only a few days since and opened by me last night. We are getting

some nice stock in this District—thorough-bred Durham and Ayrshire Cows and Bulls. A year old Bull, (Durham) named Halton, was bought here, about two months since, for thirty-seven pounds. I have a ram Lamb which weighed on July 2nd 100 lbs., and my neighbour, Mr. Going, has one which on the 6th weighed 111 lbs. In haste,

Your's faithfully,

J. A. ALLEN.

P. S. Have not the cattle of the country some admirable qualities? Are they not worthy of notice and of premiums? Ought not *their* improvement as pure bred *natives* to be encouraged by the selection of the best by judicious care and breeding.

J. A. A.

[We readily insert the foregoing communication from our respected correspondent, and invite the attention of the managers of the Provincial Association to the subjects it embraces. The premium list underwent much deliberation, and as it has been already circulated throughout the Province, we fear that it is too late for the present year, to carry out the alterations suggested by our correspondent; but we have no doubt they will receive due attention by the Board hereafter. The object of certificates to shew the breeding of *Grade* Stock, is, we apprehend, simply to gratify a natural curiosity and to impart useful information; no grade animal will be disqualified for a premium for want of a certificate, if otherwise eligible. This however will not be the case with the *pure breeds*;—from them a full and satisfactory pedigree will in all cases be required. As to articles of merit, not enumerated in the premium list,—and of such there must necessarily be more or less in an Exhibition of so extensive a range,—the Directors have always been disposed to deal as liberally as the state of the funds of the Association would allow; and we have no reason to think that the present year will be an exception. The Board of Agriculture will doubtless feel gratified in receiving suggestions and information on the important objects which they seek to promote, from all portions of the Province.]—EDITOR.

THE MONSTER OX.—The magnificently great Ox raised by Col. N. C. Baldwin of Cleveland, will soon be sent on a pilgrimage to the World's Fair. He has been fattened for eight years, and now weighs the enormous figure of 4,000 pounds. The world may safely be challenged to produce his equal. A mile per day is now his longest land journey! He will be transported East by water, and from Boston will need a pretty good sea craft for his individual comfort.—*Cleveland Herald*.

RUST IN WHEAT.

To the Editor of the Canadian Agriculturist.

SIR,—Permit me, through the columns of your excellent journal, to suggest, for the consideration of your scientific readers, an explanation of the cause of the rust or shrinking of wheat—that most fruitful source of anxiety and often of disappointment to the Canadian farmer. I do not, Sir, baptize these suggestions with the high title of *theory*, nor propose them as a certain solution of the cause of the rust of wheat, but I would offer them for the consideration of naturalists. The only explanation with which I have met of the rust of wheat is that given by Mr. Knight, some 40 or 50 years ago. Mr. K. suggested and scientific agriculturists have adopted his explanations, that immediately after a rain, a greater quantity of sap, than usual, ascending through the pores or capillary vessels, bursts the outer coating of the straw, and by this disorganization the further growth of the straw is prevented. From the absence of facts bearing upon this point, it may be equally impossible to refute or confirm this theory. Upon it I have only one remark to make, namely;—if the vessels of the straw are liable to burst by the increased amount of sap caused by the rain, I would ask, why they do not burst at an earlier period, when the straw is certainly more tender than at this particular time. This, I believe, does not take place, otherwise the growth of the straw might be checked when its head had attained but half its natural size? I am not aware that this ever occurs.

To the botanist I would define this theory (I use the term for convenience for want of a better) in few words. Though the agency of warm rains followed by sultry or hot weather, the *anther* explodes before it comes to maturity, and, therefore, the *pollen* which is indispensably necessary for the perfection of the grain, never reaches the *stigma*, and hence the rust or shrinking of the wheat.

For the information of the general reader and those unacquainted with botany, allow me to subjoin the accompanying explanation. If any, who are familiar with the terms and science of botany, are disposed to censure my illustrations as too prolix for themselves, such will bear in mind that they may not be so to those unacquainted with this subject; and as this point, so far as I am aware, has not been touched upon, I shall take the liberty

of a wider range in the elucidation of my views than, otherwise, I should feel justified in doing.

The cause of the rust or shrinking of wheat must be looked for in the imperfection or derangement of some of those organs which are necessary for the full development of the grain. The principal organs of the growth of plants and trees are two—the stem and the leaves. In the tree the sap ascends through the *alburnum* (the last year's growth) to the leaves; through the agency of the leaves it undergoes certain chemical changes, and then descending again between the bark and *alburnum*, it forms another layer between the bark and last year's growth. If either of these organs should become deranged, as, for example, if the tree were *girdled*, or the leaves picked off, the growth of the tree would be checked or entirely stopped. In the production of the grain there are other organs, the derangement of which, suggests the most natural cause of the rust of wheat. These organs are what botanists call *stamens* and *pistils*.

On examining flowers, we shall find a number of thread-like projections in and around the centre of the blossom. If the reader will take the wild or most of the single garden flowers, he will find these organs very distinctly marked, such as the strawberry, tulip, (stamens and pistils very prominent) pink, apple, cherry, &c. The centre one or ones (for there is sometimes one, sometimes many) we call *pistils*; those surrounding them—the *stamens*. At the base of the pistil is the germ of the future seed; on the top, an opening called the *stigma*. On the top of each stamen is a knob or box, called the *anther*, filled with a dust-like substance called *pollen*. This pollen, by the bursting of the anther, is scattered, some of which falling upon the stigma of the pistil, is itself burst by the moisture of the stigma, and from it a liquid flows through the pistil to the germ. This liquid is necessary for the full development of the seed. Without it the seed never comes to maturity. If then any disorganization of these organs should take place, the growth of the seed would be checked. As moisture causes the anther to swell and burst, if there be too much wet just before the anthers are ripe, or far enough developed, they burst, and the pollen is scattered before it comes to maturity; as a necessary consequence the germ of the future seed is deprived of this indispensable nutriment, the growth of the seed is checked, and the grain shrinks—or as it is called—rust ensues.

The particular office performed by the stamens and pistils was unknown until explained by Linnæus; they have, however, been considered, from remote antiquity, as of great importance in perfecting the seed and fruit. A species of palm cultivated by the ancients, has the stamens and pistils on separate trees; the Greeks discovered that, in order to have good fruit, it was necessary to plant the two kinds of trees near each other, and that without this assistance, the dates had no kernel. In the East, at the present day, those who cultivate palms select the trees which have pistils, as these alone bear fruit. When the plant is in blossom, the peasants gather branches of the wild palm trees which bear stamens on the flowers, and strew the pollen over the cultivated trees. A curious fact, illustrative of this subject, is related by an Italian writer, "that in places about forty miles distant, grew two palm trees, the one without stamens, the other without pistils; neither of them bore seed for many years; but in process of time, they grew so tall as to tower above all the objects near them. The wind, thus meeting with no obstruction, wasted the pollen to the pistillate flowers, which, to the astonishment of all, began to produce fruit."

In the summer of 1846 or 7, finding a few heads of wheat in my garden some distance from any field of wheat, I cut off all the heads but one; from this one I carefully clipped off all the anthers from the stamens, leaving the pistils, as far as possible, untouched. On examining the kernels of wheat at the proper time, I found them shrunk, especially after they had lain for some time in a dry place. Although the straw continued bright, the grains were only about two-thirds the natural size. I don't give this as an *experimentum crucis*, or decisive proof of the correctness of my theory, for more facts would be required to test it; but I give it as one fact bearing upon the point, and as a specimen of what might be done by those having good opportunities for such experiments.

All these facts, viz., the peculiar office, as explained by Linnæus, of the stamens and pistils,—the practice of the Greeks in planting near each other the palms bearing these organs when they grow on separate trees,—the practice of the peasants of the East in strewing pollen over the pistillate flowers,—the case mentioned by the Italian—and the experiment just explained in clipping off the anthers of the head of wheat, and the well-known fact that moisture will cause the anther to explode before the pollen is ripe enough to be

disseminated, all bear upon this one point, that the deficiency or imperfection of the pollen, may be the cause of the rust of wheat. That the pollen may fail to perform its functions from some other cause than the one just assigned, I am ready to admit; but it appears to me that facts and analogy bear us out in the inference that the immediate cause of the rust, is to be looked for in some defect in these two organs—the stamens and pistils.

Whatever may be the real cause of rust, that cause must be discovered, before science can suggest a remedy. Some fortunate individual, it is true, may stumble upon a remedy, but accident is entitled to very few of the many discoveries which have blessed the world. If the true cause of the rust in wheat has been pointed out in these remarks, a preventive might be suggested; but that preventive nature herself must provide.—This, it must be acknowledged, is the only practically important question. This question I must confess myself not competent to answer; yet if this article had not already grown beyond the limits which you have allowed me, I would offer a few suggestions, which might, at least, direct the attention of those better qualified than I can pretend to be, to a subject connected in so vital a manner with the prosperity of Canada.

Yours, &c.,

J. HURLEBURT.

Toronto, 3rd July, 1851.

GEOLOGICAL SURVEY OF CANADA.—MR. HUNT'S REPORT.

(Concluded from page 126.)

Peat.—I have already alluded to the peat of the Savanne of St. Dominique, which from its abundance appears well worthy of attention in an economic point of view. In a country like Lower Canada where coal is wanting, and where wood is already becoming in some parts scarce, the public attention must ere long be turned to some other source of fuel. Among these we have at home a very important one in the shape of our immense deposits of peat. Besides the large area above alluded to, there is an extensive deposit of a similar character which appears on the road between Longueuil and Chambly, and extends westward over a large tract; another described as of large size is found in the Seigneurie of Ste. Marie de Monnoir, and still another south of La Prairie; while the peat bogs on the south side of the Ottawa, and along the line of the Rideau Canal, which you have alluded to in your Report upon the Ottawa, are of great and but imperfectly known extent.

The value of peat as a fuel is almost unknown in this country, but the amount of it consumed in the British Isles and in Continental Europe, shows that it is a product of great and increasing importance. The amount of peat raised in France in 1845 was 420,000 tons, and its value 977,560 dollars; the number of workmen employed was

nearly 40,000. Its price in the city of New York, where it is consumed in considerable quantity, is about \$1½ per ton. In addition to its use as a fuel in domestic operations, peat or the coke obtained in charring it, by a process similar to that employed for the manufacture of wood charcoal and mineral coke, is now successfully used to a large extent for the manufacture of iron, in France, Sweden, Bohemia, Bavaria and Wirtemberg; the iron thus obtained is said to be of superior quality, and the peat coke is even preferred for the refining of steel. Peat affords by distillation a brilliant gas for illumination, in a quantity as great as ordinary coal, and entirely free from those sulphurous compounds, which contaminate the gas from the latter. In Ireland according to Sir Robert Kane, it is in general use upon the steamers on the River Shannon, in the midst of a coal bearing country, and is employed in mills and factories for generating steam, to which from its flaming character it is well fitted.

By a process recently patented in Great Britain, by which the peat is condensed with the aid of a strong hydraulic press to about one third its bulk, a fuel is obtained more dense than oak wood, which by charring yields a coke eminently combustible, and heavier than wood charcoal; it can be manufactured for twenty shillings sterling per ton. The patentee, who is the managing director of the Dublin Steam Navigation Company, prepares also an artificial coal from peat, of which it is stated, as the result of experiments made on the vessels of the Company, that with ten hundred weight, the same steam power is obtained as with seventeen and a half hundred weight of pit coal; thereby saving thirty per cent. in the stowage of fuel.

For the above facts, which I have adduced in order to call attention to the value of our own peat bogs, I have been indebted to Mr. R. C. Taylor's late valuable work, "Statistics of Coal," and Sir Robert Kane on the Industrial Resources of Ireland.

The late surprising statements of the O'Gorman Mahon, as to the practicability of manufacturing oil, acids, wax, as well as gas and coke from the peat of Ireland, do not appear as yet sufficiently sustained by experiment to render them perfectly satisfactory; although such products are undoubtedly to be obtained by distillation of peat, it does not appear certain that they can be made economically available.

The peat of our vicinity is of a very excellent quality, and contains but a small portion of ashes; according to competent judges who have seen it, it is equal to the best peats of Ireland and Scotland. It shall be my endeavor to collect for another year some statistics as to the extent of our deposits, and to submit the different samples to examination in order to determine their real and relative value as fuels.

In this connection I may allude to the asphaltum or mineral pitch which is found on the nineteenth lot of the sixth or seventh range of the Township of Enniskillen, Canada West; attention was first

called to it by His Excellency Earl Cathcart, who gave specimens of it to the Commission; since then Mr. Wood, the late member for Kent, has kindly sent a mass of more than one hundred pounds weight. It is said to be spread over an area of several acres, and from the specimens received it is at least two feet in thickness. Its consistence is about that of the variety known as *mineral caoutchouc*. The consumption of this material in England and on the Continent for the construction of pavements, for paving the bottoms of vessels, and for the manufacture of illuminating gas, to which it is eminently adapted, is such that the existence of deposits of it in this country is a matter of considerable importance. A careful examination of the locality with regard to its extent, will be made during the ensuing season. The specimens in my possession contain from seventy-eight to eighty-one per cent. of combustible and volatile matter.

MINERAL SPRINGS.

In my Report for 1847-'8, I had occasion to describe the well-known Sour Spring in the vicinity of Brantford, which is remarkable for containing a large amount of free sulphuric acid. Since that time I have learned of the existence of several springs of a similar nature in the same portion of the country. One of these has been described by Dr. Mack of St. Catharines, in the British American Journal for July, 1849.

It is situated about a mile and a half above Chippewa, near the Niagara River, and fills a small basin which has no visible outlet. The water is described by Dr. Mack as intensely sour to the taste, and strongly impregnated with sulphuretted hydrogen. A qualitative analysis shewed that the acid was the sulphuric, and that no chlorine was present. Protosalts of iron, and small quantities of lime and magnesia were also detected. A specimen of this water was kindly furnished me by Dr. Sutherland, by which I was enabled to confirm the results of Dr. Mack, and to detect a portion of alumina, thus completing its resemblance to the water of Tuscarora, to which it seemed closely allied in the proportion of free sulphuric acid. Dr. Chase of St. Catharines, shewed me a specimen of water from a spring near to St. Davids, which was similar in character to the above, but less strong.

Another interesting locality of acid water occurs in that vicinity, which I had an opportunity of examining personally. It is upon the S. W. corner lot of the Township of Niagara, upon the land of Mr. McKinley, and near the margin of a small rivulet, which at the time (Oct. 15th) was dry, and showed in its bed, at the depth of three or four feet from the surface, the red and green variegated Medina sandstones of the region in place; they are covered by a tenacious yellow clay, in which the basin of the spring is formed. It is nearly circular, between three and four feet in diameter, and about thirty inches in depth. The water rises to within six or eight inches of the surface, and has no visible outlet, its level is said to be nearly the same throughout the year. It is

kept in constant agitation by the escape of considerable quantities of carburetted hydrogen gas, which burns with a bright flame on contact with a light.

The soil is devoid of vegetation for a distance of six or eight feet around the basin, yet there is a layer of black vegetable matter a few inches in depth, which covers the surrounding soil and extends to the very edge of the spring; small maples are growing near.

About twenty rods further up the stream, and at a level some feet above the basin, near to the course of the rivulet, was a bed of soft mud which had resulted from the drying up of a small pool. In a depression a small accumulation of water was found an inch or two in depth; it was very sour to the taste, and near it was a small hollow filled with a very acid mud, and exhaling an odor of sulphuretted hydrogen. I was informed that in summer, when the pool is quite dry, an inflammable gas issues copiously through fissures in the clay.

I collected some bottles of the water from the basin, and have since submitted it to a partial analysis. When recent, the water has a decided flavor of sulphuretted hydrogen, the odor of which is readily perceived in the vicinity of the spring. The water is slightly turbid and yellowish, and does not become clear by repose; its taste is styptic, and strongly acid.

The specific gravity at 60° was found to be 1002.16; the usual tests shew the presence in small quantities of lime, magnesia, alumina, and protoxyd of iron; the acid is the sulphuric, without any trace of hydrochloric acid. When evaporated at a gentle heat, the water leaves a moist residue, which blackens from the presence of an organic substance which exists in considerable quantity, and which has also been remarked in the acid water of Tuscarora, and by Dr. Mack in that of Chippewa. By ignition a residue was obtained of sulphates with oxyd of iron and alumina, which in two determinations equalled .580 and .620 for 1000 of the water; the same quantity gave .074 of lime, equal to .180 of sulphate. The sulphuric acid was found by two determinations to be 2.1308 and 2.1440, mean = 2.1376. Of this .106 are required to form gypsum with the .074 of lime, leaving 2.0316 of dry sulphuric acid, equal to 2.4887 of oil of vitriol. The residue of the solid matters equalling .420, and consisting in part of sulphates, would not correspond to the decimal part of that quantity; so that in round numbers the water will contain two parts of hydrated sulphuric acid in 1000. At a future time I purpose to make a complete analysis of the fixed ingredients of this spring.

It is interesting to remark, that this water collected in clean bottles, was found at the end of some months to contain abundance of small flocculi of an organic substance, which under the microscope appeared to consist of groups of filaments, each composed of a single chain of globular homogeneous and translucent vesicles of a yellow color. The existence and development

of veg table life in a solution of sulphuric acid and sulphates of iron and alumina, appears somewhat curious and worthy of record.

It is to be remarked in connection with the view suggested by me in my Report for 1847-'48, as to the relation between these springs and the gypseous deposits, that the first of those above mentioned, like that of Tuscarora, rises from the gypsiferous rocks, and that of Niagara from the upper portion of the Medina sandstones, to some portion of which formation the one nearest St. Davids will also belong.

INQUIRY RESPECTING THE POWER OF AGRICULTURAL SOCIETIES RECEIVING GOVERNMENT AID.

To the Editor of the Canadian Agriculturist.

SIR,

Being a member of an Agricultural Society which takes the *Agriculturist* I consider myself a subscriber to that interesting and instructive paper; I therefore take the liberty of applying to you for your opinion on a late proceeding of our Society, concerning which, I in common with some others have doubts as to its lawfulness, viz: Can an Agricultural Society allow its members (independent of their yearly subscription) to subscribe to a fund, the amount of such subscription being added in the list sent to Government to subscribers names, which after realizing the Government allowance, is spent in purchasing seed wheat to be divided between those subscribers to that fund; a separate list being kept by the Treasurer as a guide in the division.

This would certainly be a cheap way of getting our seed, if it is but lawful to draw the Government allowance for such a purpose, and the majority of our Committee say it is. But as I am not one of those who think that a majority must be right, I determined to apply to you for information, as one most likely knowing the rights of the case. Hoping you will give this your earliest attention and excuse my troubling you,

I am Sir,

Your obedient servant,

BACKWOODSMAN.

[An Agricultural Society receiving aid from the Government grant, has unquestionably a right to purchase either improved animals or new varieties of seeds, for the purpose of experiment, with a view to advance the agriculture of the District. But to purchase largely seed wheat for ordinary use, as a mere matter of business, and to devote a portion of the public grant towards

the payment for the same, appears to us not in accordance with the spirit of the law. The principal object of the public grant is to reward the producers of articles of merit, submitted to competition; and not to aid individuals in the ordinary affairs of business. The returns required to be made to the Board of Agriculture by the New Agricultural Bill, now before Parliament, will, if framed into a law, prevent the irregularity of which our correspondent complains, and several others, which we are informed have crept in under the present system.—
EDITOR.]

“KNOWLSON'S COMPLETE FARRIER.”

CONVULSIONS, OR THE STAG EVIL.

Of all disorders to which horses are subject, this is the worst, and is scarcely discoverable till the horse falls down raging mad. It seizes him all at once, without any previous warning. He raises his head, with his nose towards the rack, pricks up his ears, and cocks his tail. In this posture he continues, and those who do not understand the disorder never suppose that he ails anything of consequence. But other symptoms soon convince them of their mistake; for his neck grows stiff, cramped, and almost immovable; his jaws are locked and every tendon in his body becomes stiff. If he can get his mouth open, he will bite anything that comes in his way; and if he lives a few days in this condition, several knots will arise on the tendinous parts of it. Every muscle is so much cramped and extended, that the horse looks as if he were fastened to the place, with his legs stiff, wide, and staggering, and the skin drawn so tight over every part of his body, that it is almost impossible for him to move; and if you attempt to make him walk, he will be ready to fall at every step, unless he be well supported. At the same time his eyes are so fixed by the contraction of the muscles as to give him a dead look. He snorts and sneezes often, pants continually, and his shortness of breath increases till the distemper takes a favorable turn, or the horse falls down and dies.

CURE. In the first place bleed plentifully, unless the horse be old and low in flesh, or taken from some hard duty, and then you must not take so much blood. After bleeding, give the following ball, if you can get it in, but the horse is very often jaw-locked till nothing can be got in but a clyster-pipe put between his fore and axle teeth.

- ‡ oz. of Assafoetida.
- ‡ oz. of Gum Guaiacum.
- ‡ oz. of Gum Camphor.

Make them up into a ball with honey, and give one of these balls every twelve hours, for two

days, if you can get them in; and if not, dissolve them in a little hot beer, and give them with the clyster-pipe. (Be careful to powder the Gums.) Then make an ointment or lotion of the following.

- 1 oz. of Oil of Spilke.
- 1 oz. of Oil of Amber.
- 1 oz. of Oil of Bricks.
- 1 oz. of Spirits of Sal Ammoniac.

Shake them well together, and rub the jaws just below the ears, where they lock into the upper chap; also rub the small of the back well, where the cross bones are fixed to the back bone.

In this, as in most disorders, the body should be kept gently open with laxative purges and emollient clysters. When the jaws are so locked that you cannot get anything in, do not open them by force, for that would increase the disorder instead of relieving it.

Sheep skins newly taken off, and laid with the flesh side to the horse, will sweat him greatly, and by that means draw a quantity of water from the blood, indeed, there are few things that will relieve a locked jaw more: but if they be laid on the loins, they must not lie above three hours at a time before they are turned with the wool side to the horse. You may keep the skins on twenty-four hours if you change sides every two or three hours.

If the horse cannot take either food or water in at his mouth, he must be supported by clysters, made of barley-water and milk, and given both at the mouth and the fundament. I once supported a large waggon-horse in this manner for twelve days, and he recovered.

Convulsions are caused by different things, but often by bots in the stomach; for these destructive vermin suck up the juices that should feed the blood, and bring it into a thin, bad state; indeed they are sure to destroy the horse by one means or other when there are a great number of them in the stomach. I therefore wish all who have a horse troubled with them, to destroy them before they destroy the horse.

When you suspect that these vermin are the cause of the disorder and they generally are, give the ball recommended to destroy bots. If the horse get better the first time, be sure to guard against a relapse, for you may depend upon it he will not get better a second time.

Tapping under the jaws, and at the breast, is sometimes of great service in this disorder, but I am of opinion that sweating with sheep skins will give relief much sooner. I wish to observe before I conclude this chapter, that the stiffness of the jaws continues after convulsions have ceased; in which case the following medicine should be given.

- ‡ an oz. of Mathews' Pills.
- ‡ an oz. of Assafoetida.

Make them into a ball, and give it twice, (one day between the doses,) and it will give relief.

FEVERS.

Horses are subject to few disorders which are not attended with more or less fever.

CAUSES. Fevers are often brought on by sudden heats and colds; by going out of warm stables into cold ones; by being clothed, and then having the clothes stripped off; by being turned out to grass; for many people turn their horses out to grass in the morning, and let them lay out, which is quite wrong: for when they are turned out to grass, to be there night and day, it is best to turn them out at night, for then they will graze all night; but if you turn them out in the morning, they will fill themselves in the day-time, and lie still all night, which is the way to catch cold. Most fevers are brought on by colds, therefore be careful to keep your horses as much as possible from catching cold.

SYMPTOMS. The horse is remarkably restless, ranging from one end of his rack to the other; his flanks work, his eyes appear red and inflamed, his tongue is parched, and his breath hot and of a strong smell. He often smells at the ground, he loses his appetite, and though he will take hay into his mouth, he does not chew it; his whole body is hotter than usual, but not parched; he dungs often, but little at a time, and it is generally hard, and in small pieces; his urine is high-colored, and he generally stales with pain and difficulty; he is always craving for water, but drinks very little at a time; and his pulse is much quicker than usual.

CURE. Whenever a fever takes place, the first part of a cure is bleeding, and if the horse be strong and in good condition, the quantity should be two or three quarts. When this has been done give him a pint of the following infusion, three or four times a day.

- 4 oz. of Juice of Liquorice.
- 4 do. of Liquorice Root.
- 2 do. of Salt Peter.
- 4 do. of Salt of Tartar.
- 8 do. Good Raisins.
- 2 do. Aniseeds.
- 2 drams of Saffron

Boil all these together in six quarts of water, for ten minutes, let it stand till cold, and then strain it off. It is one of the best medicines for colds, coughs, hoarseness, or fevers, in either horse or man; and if it were more known, and more used, it would give greater relief in violent colds than anything yet found out. It is kind in its operations, opening the lungs, works gently by stool and urine, is free in its passage, and opening in its nature.

The horse should scarcely eat anything but mashes made of linseed and bran, and given in small quantities. If he refuses them, let him have dry bran sprinkled with water, and put a little hay into his rack, as a small quantity of it will not hurt him, and a horse will often eat hay when he will not eat anything else. His water should be rather warm, and given often but in small quantities; and clothing moderate, too much heat being pernicious in a fever. If he refuses his meat, do not let it lie before him, but take it away, and clean his rack and manger. If he be able to go about, a little walking exercise in the

open air will be very proper, but you must be careful not to get him wet.

This method, with good nursing, will often be sufficient to restore the horse to health; but if he refuse his meat, more blood should be taken from him, and the drink continued; and if his dung be hard and knotty a clyster should be given.

Take Marshmallows and Cammomile flowers, a handful of each, boil them in three quarts of water till one quart is wasted; then strain it off, and add four ounces of Venice Treacle, and one pint of Pale Rape Oil.

The above will make three clysters, to be given at four hour's distance. If his pulse continue high and quick, give the following.

- 2 oz. of Nitre.
- 2 do. of Cream of Tartar.
- 4 do. of Glauber's Salt.
- 2 do. of Lenitive Electuary.

Dissolve them in hot water, give one half, and and the other half the day following. If the horse be very open in his body, you need not give the above: but if dry, be sure to give him it. If he be very open, give him four drams of bark in a gill of red port. By pursuing this method, the horse will begin to recover, and will relish his hay, though his flanks will continue to heave for a fortnight. Nothing more will be requisite to complete the cure than walking him abroad in the air, and giving him plenty of clean litter to rest on in the stable.

There is another and much worse kind of fever to which horses are very subject, and which often proves fatal if not properly treated, viz.

A COMPOUND FEVER.

SYMPTOMS. The symptoms of this disease are—a slow fever, with great depression; and sometimes inward heat and outward cold and at other times heat all over, but not excessive. The horse's eyes are moist and languid; his mouth is continually moist, so that he is not desirous of drinking, and when he does drink, a very little satisfies him, he eats very little, and moves his joints in a loose, feeble manner, grating his teeth very disagreeably; his body is generally open, his dung soft and moist, and he stales irregularly, sometimes making little water, and at others a large quantity, which is of a pale color, and has very little sediment.

CURE. In the first place, take from the horse a moderate quantity of blood. Let it not exceed three pints, but repeat the operation according to its strength, if there be any tendency to inflammation; and after this the nitre drink already described may be given with the following addition.

- 1 oz. of Snake Root.
- 3 drams of Saffron.
- 3 drams of Camphor, dissolved in Spirits of Wine.

The horse's diet should be scalded bran; and linseed, boiled, and wrought up with bran. Also give him the best hay by a handful at a time. It is often necessary to feed him by the hand, for

sometimes he is not able to lift his head to the rack.

In this disease, drinking is absolutely necessary to thin the blood; and therefore if the horse refuse warm water he should be indulged with such only as has had the cold taken off. This may be done with a hot iron, or by letting it stand in the pail in a warm stable; and this will be better than forcing warm water on the horse's stomach. If this method do not prove sufficient, but the fever shall continue to increase, the following balls should be given immediately, as the danger augments every hour

1 oz. of Camphor.
 ¼ do. Gum Myrrh.
 1 do. Squills.
 2 drams of Castor.

Make them up into two balls, and give one at night, and the other in the morning. If no better in a short time, give the following infusion.

1 oz. of Snake Root.
 2 do. Genuan Root.
 2 do. Lemon Peel.
 2 drams of Safron.

Boil these well together in three quarts of water, and give a pint once a day. If the above ball fail of success, give the following.

1 oz. of Camphor, dissolved in Spirits of Wine.
 1 do. Sal. Ammoniac.
 1 pint of good Vinegar.

Put them all together, and stir them about till the fume subside. This is for two doses to be taken a twelve hours' distance, diluted with water. There is not perhaps a more powerful and effectual medicine known than camphor in all kinds of putrid fevers, it being active, attenuating, and particularly calculated to promote urine and perspiration, the two principal outlets by which relief is obtained; and if this medicine were more often given than it is, it would be a greater credit to the farrier, and give greater relief to the horse.

If the horse be costive, the clysters, or an opening drink, should be given; and should he purge moderately, be careful not to suppress it; but if it continue so long as to enfeeble the horse, give him a little red port wine and bark.

Also observe to let the animal drink plentifully, for that will greatly promote the operation of the above named medicines, as both the disorder and the medicine will cause the thirst. If the horse can bear walking about, a little open air will be very proper, but be careful to keep him well covered.

Particular regard should also be paid to his staling, which, if it flow in too great quantities, must be repressed by proper astringents, and by giving him lime water; and, on the other hand, if he stale so little as to occasion a fullness or swelling in his body and legs, give him the following drink.

1 oz. of Nitre.
 2 do. Castile Soap.
 1 do. Venice Turpentine.
 2 drams Oil Juriper,

Make them into a ball with liquorice powder, and give them at twice in twenty-four hours' distance. These balls may be given as occasion may require, and are very proper to convey off the greasy, slimy matter from the passage of the urine, and to settle swelled legs.

These are the best methods of management, and will generally prove successful; but sometimes art will fail, and the horse will discharge a greenish or reddish gleet from his nostrils, and sneeze very frequently; he will continue to lose his flesh, become hide-bound, refuse his meat, swell about his joints, and his eyes will appear fixed and dead; a purging also ensues, and a dark-colored fœtid matter is discharged. When these symptoms appear, the case may be considered desperate, and all attempts to save the horse will be fruitless.

In this disorder you must take care not to let the horse eat too much, for his diet should be light, and in small quantities at once, and increased gradually as he may gain strength. When his skin feels kind, his ears and feet continue moderately warm, his eyes look lively, his nose remains clean and dry, his appetite mends, he lies down with ease, and dungs and stales well, you may conclude that the danger is nearly over, and that nothing more is needful but care to complete the cure. On the contrary, by over-feeding you will run the risk of bringing on a bad sweat, and the horse may be, according to the old saying,—*killed with keeping*.

Sometimes the fever returns; so that every one who has a horse in a fever should be careful of cold for some time after, as his blood is left in a thin bad state. His legs will probably be subject to swell; and if the swelling leave a dimple when you press your finger upon it, it is a sign of a dropsy; in which case it will be advisable to put two towels on each side of his belly, and to give him half an ounce of the best yellow bark every day for some time. At other times a fever leaves a running at his nose, of a thin yellow, glueish matter, and small swellings below his ears and chaps.

When you find these symptoms, give one ounce of crocus metalorum every day in a mash of bran, and rub the swellings with mercurial ointment.

In the years 1796, 1797 and 1798, a distemper prevailed among horses, attended with a strong fever, which in a few days turned to a putrid fever. Some horses had their eyes so much inflamed as to stand goggling out of their sockets; they had also swellings all over their bodies, and in two or three days dropped down dead. At that time I observed that the horses which had camphor given them got the best through. Some horses which had this distemper, have a relapse of it in the spring season; and it is difficult to eradicate.

Care should be taken to keep the head and throat warmer than common, as the kernels about the latter are swelled; and also to promote

a free perspiration, and to increase the running at the nose, which has the same effect in horses as spitting has in the human species; but never syringe the nose, as is often done to promote the discharge, for it has an effect quite contrary, and lessens the quantity of matter instead of increasing it; and checking the discharge of matter at the nostrils often causes swelling of the glands, and other bad consequences. Let me once for all remind you that all such discharges are critical, and thrown off by nature to free herself from the load that oppresses her, and consequently should by all means be promoted.

BROKEN WIND.

This disorder may sometimes be prevented, but cannot be cured; and it has hitherto been as little understood as any to which a horse is subject. People have had various opinions respecting its cause, and why some horses are more subject to it than others; but of all the opinions hitherto delivered, that of Mr. Gibson seems the best founded. He thinks that it is frequently owing to the hasty or injudicious feeding of young horses for sale; by which means the growth of the lungs is rapidly increased, and all the contents of the chest so much enlarged, that in a few years the cavity of the chest is not sufficient to contain them when they are expanded to perform their proper functions. Nor is this opinion founded upon bare conjecture, for horses that have died broken-winded have been opened, and the lungs and other parts found too large for the chest. But although hasty feeding is often the cause of this disorder, yet it is not always, for a narrow chest may cause it. It has been observed that horses rising eight years old are most subject to it. The reason of this is, because a horse arrives at his full strength and maturity at that age. At six he generally finishes his growth in height; then he lets down his belly, and spreads, and all his parts gain their full size; so that the pressure on the lungs and the midriff is now increased.

Also, when the horse catches cold and gets a dry cough, the lungs are much larger than they ought to be, and at that time riding sharply is enough to force the lungs so hard against the Midriff as to force a passage through it.*

A few years back some people pretended to cure the complaint by boring; but none were ever cured by it yet, nor ever will be. They made a hole above the fundament, to let out the wind that was forced through the midriff into the bowels; and this caused the horse to be continually discharging wind out of the place; so that the pretended cure was worse than the disease.

Dissection of horses that have died broken-winded, have sufficiently proved the truth of this observation; and that not only the lungs, together with the heart and its bag, were preternaturally large, but also the membrane which divides the chest; and that the midriff was remarkably

* The Midriff, or Diaphragm, is that which is commonly called the Skirts, and separates the Chest (where the lungs lie) from the Bowels.

thin. In some horses the disproportion has been so great that the heart and lungs have been almost twice their natural size, yet perfectly sound: and without any ulceration whatever, or the least defect in the windpipe or in its glands.

From these observations it abundantly appears, that the enormous size of the lungs, and other contents of the chest, by hindering the free action of the midriff, is the principal cause of this disorder; and as the lungs are found much more fleshy than usual, they must consequently have lost a greater part of their spring and tone.

Therefore, as this disorder is caused by the largeness of the lungs, we may conclude that it is one of those diseases which cannot be cured by art; and that the boasting of those who pretend to cure it are built on a sandy foundation. They may indeed relieve the complaint, but will never cure it, for an absolute cure is not in the power of any human being. All that I can do is to lay down some rules which have a great tendency to prevent this disorder, if pursued in time; and some remedies that will afford relief when it has taken place, and render the horse capable of performing good service, notwithstanding his misfortune.

SYMPTOMS. The first symptom of a broken-wind is an obstinate dry cough, which is neither attended with sickness nor loss of appetite; but, on the contrary, with a disposition to foul feeding, eating the litter, and drinking large quantities of water.

PREVENTION. When a horse is troubled with an obstinate dry cough, and eats his litter, it will be necessary to bleed him, and to give him the mercurial physic already prescribed, repeating it two or three times. Afterwards give the following balls for some time, which have been found of very great service.

- 4 oz. of Gum Amomiaccur.
- 4 do. Galbanum.
- 4 do. Assa'etida.
- 4 do. Squills.
- 1 lb. Saffron.
- 6 drams of Cinnabar of Antimony.

Make the whole up into balls with honey and a little liquorice powder, and give one about the size of a pullet's egg every other morning. This is a very good ball for a dry cough.

Some horse-dealers give broken-winded horses a quantity of shot when they carry them into the market for sale, and I suppose it is to draw the bowels from the midriff, so that the disorder may not be discoverable; but at the same time there is great danger of killing the horse.

But it is not enough to give proper medicines; the horse's diet should also be carefully attended to at the same time, if we would hope for success. In order to this, the horse should eat very sparingly of hay, which, as well as his corn, should be wetted with chamber-lice, which is much better than water; and in this disease the horse is always craving after water. Chamber-lice is best for this purpose, because of the volatile salts

which it contains, as they are a means of removing thirst. For the same reason, garlic is very efficacious in this disorder. Two or three cloves being given in each feed; or three ounces bruised, and boiled in a quart of milk and water, and given every morning for a fortnight, has been found very serviceable. So easy a remedy should never be neglected; for by warming and stimulating the solids, and at the same time dissolving the tenacious juices which choke up the vessels of the lungs, it greatly relieves this complaint.

Moderate exercise should never be omitted; and although broken-winded horses are not able to endure much labor the first summer, yet many have been found less oppressed the second, and scarcely perceptibly affected the third, being then able to perform a long journey, and to endure great fatigue. A horse kept constantly in the field, when not at work, will be able to do good service for many years.

It may not be improper to observe that those who hope to cure a broken-winded horse, or even one that is troubled with an obstinate cough, by putting him to grass, will find themselves wretchedly mistaken; for on his being taken into the stable and fed with dry meat, he will be much worse than before; and some that had only a dry cough when they were put to grass, have returned broken-winded. Therefore always remember that if you cannot keep a horse of this description constantly abroad, it is best not to put him to grass at all, as instead of curing, it will tend to augment the disorder.

In short the grand secret of managing horses of this kind, consists in having particular regard to their diet and exercise. A moderate quantity of hay or corn, and water, should be given at a time, and the former constantly moistened, to prevent their wanting too much of the latter. They should have moderate exercise, but never any that is violent. By this method, and giving the following ball once every fortnight or three weeks, the horse will be able to do good service for many years.

- 6 drams of Socotrine Aloes.
- 2 do. Myrrh.
- 2 do. Galbanum.
- 2 do. Ammoniacum.
- 2 oz. of Bayberries, in powder.

Make the whole into a ball with a little oil of amber, and a sufficient quantity of syrup of blackthorn. This ball operates so gently that there is no need for confinement, except a little the day following that on which it is given. The horse must have warm mashes and warm water, and the utmost care must be taken to prevent his catching cold.

THE FLAX-COTTON REVOLUTION.

From the N. Y. Tribune.

Although I have not yet found time for a careful and thorough examination of the machinery and processes recently invented or adopted in

Europe for the manufacture of cheap fabrics from Flax; I have seen enough to assure me of its value and importance. I have been disappointed only with regard to machinery for Flax-Dressing, which seems on a casual inspection, to be far less efficient than the best on our side of the Atlantic, especially that patented of late in Missouri and Kentucky. That in operation in the British Machinery department of the Exhibition does its work faultlessly except that it turns out the product too slowly. I roughly estimate that our Western machines are at least twice as efficient.

M. Claussen is here, and has kindly explained to me his processes, and shown me their products. He is no inventor of Flax-dressing machinery at all, and claims nothing at all in that line. In dressing, he adopts and uses the best machines he can find, and I think is destined to receive important aid from American inventions. What he claims is merely the discovery of a cheap chemical solvent of the Flax fibre, whereby its coarseness and harshness are removed, and the fineness and softness of Cotton induced in their stead. This he has accomplished. Some of his Flax-Cotton is scarcely distinguishable from the Sea-Island staple, while to other samples he has given the character of wool very nearly. I can imagine no reason why this cotton should not be spun and woven as easily as any other. The staple may be rendered of any desired length, though the usual length is about two inches. It is as white as any cotton, being made so by an easy and cheap bleaching process. M. Clausen's process in lieu of rotting requires but three hours for its completion. It takes the flax as it comes from the field, only somewhat dryer and with the seed beaten off, and renders it thoroughly fit for breaking. The plant is allowed to ripen before it is harvested, so that the seed is all saved, while the tediousness and injury to the fibre, not to speak of the unwholesomeness of the old fashioned rotting processes are entirely obviated. Where warmth is desirable in the fabrics contemplated, the staple is made to resemble wool quite closely.—Specimens died red, blue, yellow, &c., are exhibited to show how readily and satisfactorily the flax-cotton takes any color that may be desired. Beside these lie rolls of flannels, feltings and almost every variety of plain textures, fabricated wholly or in good part from flax as prepared for spinning under M. Clausen's patent, proving the adaptation of this fibre to almost every use now subserved by either cotton or wool. The mixtures of cotton and flax, flax-cotton and wool, are excellent and serviceable fabrics.

The main question still remains to be considered—will it pay? Flax may be grown almost everywhere—two or three crops a year in some climates—three times the present annual product of cotton, flax, and wool, all combined, could not easily be produced even next year. But unless cheaper fabrics, all things considered, can be produced from flax cotton than from the Mississippi staple, this fact is of little worth. On

this vital point I must of course rely on testimony, and M. Clausen's is as follows:

He says the flax-straw, or the ripe dry plant as it comes from the field, with the seed taken off, may be grown even here for \$10 per ton, but he will concede its cost for the present to be \$15 per ton, delivered, as it is necessary that liberal inducements shall be given for its extensive cultivation. Six tons of the straw or flax in the bundle will yield one ton of dressed and clean fibre, the cost of dressing which by his method so as to make it Flax-Cotton, is \$35 per ton.—(Our superior Western machinery ought considerably to reduce this.) The total cost of the Flax-Cotton will be \$125 per ton, or 6 cents per pound, while Flax as it comes from the field is worth \$15 per ton; should this come down to \$10 per ton the cost of the fibre will be reduced to \$95 per ton, or less than five cents per pound. At that rate, good 'field hands' must be of rather slow sale for Cotton planting, at \$1000 each, or even \$700.

Is there any doubt that Flax-straw may be profitably grown in the United States for \$15 or even \$10 per ton. Consider that it has been extensively grown for years, even in our own State for the seed only, the straw being thrown out to rot and being a positive nuisance to the grower. Now the seed is morally certain to command, for two or three years at least, a higher price than hitherto because of the increased growth and extended use of the fibre. Let no farmer who has Flax growing be tempted to sell the seed by contract or otherwise for the present; let none be given over to the tender mercies of oil-mills. We shall need all that is grown this year for sowing next Spring, and it is morally certain to bear high price even this Fall. The sagacious should caution their less watchful neighbor on this point. I shall be disappointed if a bushel of Flax-seed be not worth more than two bushels of Wheat in most parts of our Country next May.

Our ensuing Agricultural Fairs, State and local, should be improved for the diffusion of knowledge and the attainment of concert and mutual understanding with regard to the flax culture.—For the present at any rate, few farmers can afford or will choose to incur the expense of the heavy machinery required to break and roughly dress their flax so as to divest it of four-fifths of its bulk, and leave the fibre in a state for easy transportation to the central points at which flax cotton machinery may be put in operation. If the flax straw has to be hauled fifty or sixty miles over country roads to find a purchaser or breaking machine, the cost of such transportation will nearly eat up the proceeds. If the farmers of any township can be assured beforehand that suitable machinery will next summer be put up within a few miles of them and a market there created for their flax, its growth will be greatly extended. And it intelligent, energetic, responsible men will now turn their thoughts toward the procuring and setting up of the best flax-

breaking machinery (not for fully dressing but merely for separating the fibre from the bulk of the woody substance it incloses) they may proceed to make contracts with their neighboring farmers for flax-straw to be delivered in the autumn of next year on terms highly advantageous to both parties. The flax thus roughly dressed may be transported even a hundred miles to market at a moderate cost, and there can be no reasonable doubt of its commanding a good price.—M. Clausen assures me that he would now buy and profitably almost any quantity of such flax if it were to be had. The only reason, he says, why there are not now any number of spindles and looms running on flax-cotton is the want of raw material. (His patent is hardly yet three months old.) Taking dressed and hatched flax, worth seven to nine cents per pound, and transforming it into flax cotton while cotton is no higher than at present it would not pay.

Of course there will be disappointments, mistakes, unforeseen difficulties, disasters, in flax growing and the consequent fabrications hereafter as heretofore. I do not presume that every man who now rushes into flax will make his fortune; I presume many will incur losses. I counsel and urge the fullest inquiry, the most careful calculations preliminary to any decisive action. But that such inquiry will lead to very extensive flax-sowing next year,—to the erection of flax-breaking machinery at a thousand points where none such have ever yet existed—and ultimately to the firm establishment of new and most important branches of industry, I cannot doubt. Our own country is better situated than any other to take the lead in flax-business: her abundance of cheap, fertile soil, and cheap seed, the intelligence of her producers, the general diffusion of water and steam power, and our present superiority in flax-breaking machinery, all point to this result. It will be unfortunate alike to our credit and our prosperity if we indolently or heedlessly suffer other nations to take the lead in it.

P. S. M. Clausen has also a Circular Loom in the Exhibition, wherein bagging, hoisery, &c., may be woven without a seam or anything like one. This loom may be operated by a very light hand power, (of course steam, or water is cheaper,) and does work rapidly and faultlessly. I mentioned this only as a proof of his inventive genius, and to corroborate the favourable impression he made on me. I have seen nothing more ingenious in the immense department devoted to British machinery than this loom.

I understand that overtures have been made to M. Clausen for the purchase of his American patent but as yet without defined result. This, however, is not material. Whether the patent is sold or held, there will next year be parties ready to buy roughly dressed flax to work up under it, and it is preparation to grow such flax that I am urging. I believe nothing more important or more auspicious to our farming interests has occurred for years than this discovery by M. Clausen. He made it in Brazil while engaged in the growth of cotton. It will not su-

perseed cotton, but it will render it no longer indispensable by providing a substitute equally cheap, equally servicable, and which may be grown almost everywhere. This cannot be realized too soon.

G.

HINTS ON LAYING DOWN LAND TO PERMANENT PASTURE.—It is highly important that the land should be cleared from weeds, and well pulverised by repeated ploughing and harrowing before the seed is sown; and in cases where the soil is particularly loose and sandy, it is desirable that it should be also rolled before sowing; if this is not effected, the seeds (many of which are very minute) will some of them be too deeply imbedded in the soil, while others may not be covered at all. It is also desirable that the seeds should be sown when there is not much wind, and that they should be delivered from the machine or the hand placed rather near to the soil; otherwise, the smallest and most valuable of the seeds may be carried by the wind into the adjoining field or hedge-row. The harrows, which should be very light, must be again drawn over after sowing, and if the soil is very light and dry, the roller also; and if the soil is poor, a dressing of Peruvian guano, or superphosphate may be harrowed in with the seeds, at the rate of two hundred weight per acre. The sorts of seed should, of course, be selected in accordance with the nature of the soil, and the purposes for which the pasture is intended; this and much other useful information may be obtained from Low's "Elements of Agriculture," Stephen's "Book of the Farm," Sinclair's "Florus Grammiensis," and other works; or from seedsmen and agriculturists, who have paid especial attention to this part of botany and agriculture. If corn is sown with the grass seeds, it should not be more than 1 bushel or $\frac{1}{2}$ bushel to the acre of corn, and for this purpose oats are preferable to barley. *On improving old pasture.*—Having as far as possible eradicated the strong growing weeds, and coarse grasses, and improved the condition of the land according to its requirements, if any, heavy harrows should be drawn over the old turf early in the spring, to loosen the soil for the admission of seeds of the finest and most nutritive kinds of perennial natural grasses and clovers, which if sown freely, will occupy the numerous small interstices between the plants of grass already growing, and thereby prevent the luxuriant growth of coarse grasses and noxious weeds. It is a good practice to sow these seeds at the same time as the top dressing is applied; but this is by no means necessary.—(*From Sutton's Catalogue of Natural and Artificial Grasses.*)

"ITALIAN RYEGRASS is not well adapted for growing alone as a crop for soiling, and should always be grown as a mixture. It is seldom or never obtained pure, even from Italy; and when grown for a number of years in this country, the plant degenerates, losing a part of that vigorous growth, which is one of its own characteristics. If intended for soiling, it should be sown without a cereal crop, giving two bushels of seed per acre, with or without a mixture of clovers, adding either two or three pecks of rye, barley, or oats, with one peck of tares per acre, preferring rye. We would consider September too late to sow it in Scotland, except under the most favourable circumstances. We have seen it sown with advantage in August after a plain fallow, but where the land is thoroughly prepared, we would prefer the end of March or beginning of April. Where intended

for irrigation, it should cut before the cereal plants shoot out. The obtaining one or more cuttings the first season, is entirely dependent on situation, condition, irrigation, and period of sowing. Under favourable circumstances, we would consider that two cuttings would not be too much to expect the first season if properly managed. As this grass has been largely and successfully grown by several farmers of the west of Scotland, and also in some districts of England, we would be glad to have their experience as to the best modes of growing for soiling.—*The North British Agriculturist.*"

A GOOD WAY OF PAINTING FARM BUILDINGS.—Having some years ago, to superintend the erection of a great number of farm-buildings, and it being the particular wish of the nobleman on whose estate they were built, that they should be rendered as durable as the material employed would admit, viz., timber in all parts, with the exception of the roof and foundation, I had all the body of the buildings done over with a mixture of gas-tar, two parts; pitch, one; the other part half quick-lime and common rosin, put on quite hot; it requires two coats at least; three is better, the first to be perfectly dry and hard before the second application; while the last coat was still soft I had dashed on it, with a trowel, well washed sharp sand, or more properly minute flint stones, which remained after several washings; this we managed by the assistance of a fine wire sieve and a stream of water with a good fall; this forms a perfect stone face to the timber; and from the appearance of them when I last saw them, they were likely to last many years longer. The sand contain no stone more than 3 lines in diameter, in fact, if all the earth is washed out the smaller the better. The window frames and doors were done over with the commonest paint I could get in London, a stone-colour, three coats, besides the priming; the paint mixed thick, and dashed over in the same manner as the rest of the building with a still finer sand; this also appeared to stand well; the sand must be made perfectly dry before it is used. The expense I cannot exactly state, as I cannot my hand on the book just now, but I know it was not much, and has given satisfaction. It is right to state that the wood-work must be perfectly dry and well seasoned before this mixture should be applied; it is better to wait a year to effect this end than put it on a green wood.—*Farmer's Herald.*"

MANAGEMENT OF MANURE.—I make it a practice, during the spring and summer months, to get the parings of ditches, and any other spare earth or mould to be had on the farm carted into a heap, as near as possible to the cow-sheds, and make up so as to turn off the rain; and when the cows are bedding down I have a quantity of the same strewn immediately behind the cows, which effectually soaks up every drop of urine that comes from them. In the cleaning out of the sheds this becomes mixed up with the solid manure, and occasionally there is a layer of about 6 inches of the dry earth spread over all; and I have found by this means my manure heaps to accumulate amazingly, and to be greatly improved in texture; and there is seldom any of that coloured matter, which is well known to be the farmer's best friend, to be seen oozing from the sides of a heap made up after the above manner, although I have had them 8 feet high; but then we have gutters to our sheds, and they are not allowed to run into our dung-pits.—*Gardiner's Chronicle.*"

SONG OF THE SOIL.

I start the bulb of the beautiful flower,
And feed the bloom of the wild wood bower ;
I rear the blade of the tender herb,
And the trunk of the stalwart oak I curb ;
I force the sap of the Mountain pine,
And bend the tendrils of the vine ;
I robe the forest and clothe the plain,
With the ripest of fruits and richest of grain.

The cheek of the peasant I paint with health,
And yield the sturdy yeoman wealth ;
I give to the spirit of commerce wings,
And prop the tottering thrones of kings.
The gorgeous palace and humble cot
Owe every atom to me they've got ;
And the prince at his banquet, the hind at his board,
Alike must depend on the fare I afford.

Man may boast of his creaturely might—
His talents in peace and powers in fight ;
And lord it over the beast and bird,
By the charm of his touch and the spell of his word.
But I am the sole and mighty source
Whence flows the tide of his boasted force—
Whatever his right and whoever he be,
His pomp and dominion must come from ME.

I am the giver of all that's good.
And have been since the world has stood.
Where's the wealth, on ocean, or beauty on land,
But sprung from the warmth of my fostering hand ?
Or where's the object fair and free,
That claims a being, but's traced to me ?
Cherish, then cherish, ye sons of toil,
The wonderful might of the fruitful soil !

And whence, says the Christian, dost thou obtain
This power so mighty, of which thou art vain ?
Thou boastest of that which is furnished to thee
By Him who is Lord both of land and of sea ;
For know that the treasures which come from thy sod
Are only thine own as the gift of thy God.



HINTS TO FARMERS.

Tomatoes make excellent preserves.

Toads are the very best protection of cabbage against lice.

Plants, when drooping, are revived by a few grains of camphor.

Pears are generally improved by grafting on the mountain ash.

Sulphur is valuable in preserving grapes &c. from insects.

Lard never spoils in warm weather, if it is cooked in frying oil.

In feeding with corn 60 lbs. ground goes as far as 100 lbs. in the kernel.

Corn meal should never be ground very fine. It injures the richness of it.

Turnips of small size have double the nutritious matter that large ones have.

Ruta Baga is the only root that increases in nutritious qualities as it increases in size.

Sweet olive oil is a certain cure for the bite of a rattlesnake. Apply it internally and externally.

Slanderers are like flies that pass over all man's good parts to light, only upon his sores.

TURNIP FLY—(*Galtica Nemorum*.)—This insect (beetle) is one of the most formidable enemies to the turnip crop. It appears and continues during the whole of spring and summer. Danger is only to be apprehended in the early stages of the turnip's growth before the third and fourth leaves have been fully developed. Every endeavor should be made to force on the young plants, by means of manure. The liquid portion of stable manure is most favorable to their rapid growth. To drive away the fly, many farmers sprinkle their young turnip crops with soot; urine and the ammoniacal liquor of the gas works would be found equally efficient in preserving the plant from its depredations. The turnip-fly is seldom seen during the day time; it then occupies the under surface of the leaf.—When the sun has set, the fly may be found in abundance on the surface. The sense of smell of this beetle is remarkably acute; it can discern the odour of the turnip—its favorite food—at a great distance. Hence the reason why the odour of soot, urine, and ammoniacal liquor of the gas works is repugnant to the delicate sense of smell possessed by this minute and destructive beetle.

NOVEL KIND OF MANURE FOR POTATOES.—A few days ago, while passing a farm-house a little to the south-west of Kirkcudbright, the farmer said he had just been paying two killers of vermin who had been on his premises two days and three nights during which time they had destroyed 136 rats many of them very large. The bodies of the voracious plunderers were placed in four drills, and first early potatoes planted on them. This is certainly a novel mode of high gardening, and an abundant crop is expected. Four months ago the same expert trappers of vermin killed 200 rats on the same farmer's premises.—*Corres. of Courier.*

CERTAIN CURE FOR FOOTAIL IN SHEEP—The following receipt was handed to me by Thos. Wilkinson, in England. I tried it successfully myself, and feel confident in recommending it as an effectual cure for this troublesome disease.

Take of quicksilver, one ounce, aquafortis, (nitric acid,) two ounces, and put them together in a glass bottle; place it in the sun, or in a warm place, with the cork out, till dissolved, when it is ready for use; cut the hoof away, as far as the foot is diseased; dip a feather in the mixture, and be careful to anoint the diseased part all over. After this, keep the sheep in a dry place for eight or ten hours. They seldom require more than one dressing, if properly done. It will be necessary, also, to wet the feet of the sheep not diseased, with turpentine, to prevent it spreading further amongst the flock.

Miss Clark of Claremont, in the Township of Colborne, made last week nine lbs. of Butter off the half breed Durham cow, Polly, that took the first premium in 1843, at the Huron District Agricultural Society's show.—*Huron Signal.*

BEAT THIS WHO CAN.—On the 4th of June instant, Mr. Andrew Hope, Farmer near Perth, and a member of the Perth Agricultural Society, sheared off from one Ram, called 'Messenger,' of the Leicester breed, 12½ lbs. of wool, of a quality seldom equalled—being particularly fine. The fleece nearly all averaged from 8 to 9 inches in the length of the wool.—*Bathurst Courier.*

CANKER IN FRUIT TREES.

We take the following observations from *Morton's Cyclopaedia of Agriculture*, part 6th; an original work, now publishing, of great merit, bringing down all information relating to agriculture and rural affairs to the latest moment. The work may be procured, as published, of Mr. Maclear, bookseller, of this city, or through any of his travelling agents.

Canker is a word applied by nurserymen to almost every case in which a greater or less portion of a vegetable, of whatever size, loses its vitality from some latent disease which ultimately destroys the parent stock. Thus, we hear constantly of the canker in auriculus, melons, cucumbers, &c.; in forest trees; or, what more immediately concerns ourselves, in apple and pear trees, and occasionally in cherries, apricots, and peaches, though the disease is then more usually called gumming, from the peculiar character which it assumes. It is very probable that the maladies which pass under the name are of various kinds, but we shall confine our observations to the ravages committed in orchards and gardens, and it will be seen that many similar cases are likely to occur amongst herbaceous plants.

Every cultivator of apples and pears, on however small a scale, is soon aware, that with all his care, many of his trees become unhealthy.—Single branches of recent growth at first wither and die, without any apparent cause. The bark which we believe is the seat of the malady, is often loose upon the shoots, especially towards the base, but not invariably; for in the same shoot, that on the upper part is often firm, while that on the lower is easily detached. The line of junction between the dead and living parts is often accurately defined; and there are seldom any fungi present, except on those parts where the bark remains firmly attached. If the dead portions are not cut off, the disease rapidly spreads to the contiguous parts, and, after a few years, the tree entirely dies, or is so unsightly and unprofitable, that the cultivator is glad to root it up. Various reasons have been assigned for the malady, but none at all satisfactory or generally applicable. The truth seems to be—judging from the well-known fact, that certain varieties are far more subject to the disease than others; some indeed, so much so, that it is impossible to cultivate them with success for any long series of years—that it is caused from lowness of temperature, accompanied by wet weather, above or below the level of the soil. Each cell of a plant, or any quantity of cells, may, in a certain sense, be considered independent of the

rest; and causes which, at a given time, affect one cell or contiguous set of cells, may not affect the rest. The health of this isolated part is deranged, disease is set up, and ultimately, decomposition takes place; and, according to the law of nature, which has been so well illustrated by Liebig, where decomposed matter exists in contact with healthy, the contact rapidly communicates the disease; and thus, if several sets of cells were influenced at the same time, the disease may rapidly extend within a given branch, or down one side of a branch, the bark on the other side remaining comparatively healthy, without exhibiting any striking external indications, till after a hard winter, or series of cold ungenial weather coming in aid of the disorganization already established, the portion of bark which carried on a sluggish vegetation fails, and the whole branch seems, as if by some sudden stroke to pass into decay. That some thing of this kind takes place, appears probable from the fact, that in the same garden, trees on the walls will be healthy, while others of the same kind, less tenderly treated, will fail. It seems quite certain that, under the best system of cultivation, and under the most favourable circumstances of soil, drainage, and temperature, the disease is proportionably mitigated, even in the sorts in which, from tenderness of constitution, the tissues are easily influenced; but in those in which it is clearly hereditary, the balance of conditions necessary for healthy growth is so easily disturbed, that the greatest care and skill, and the most favourable circumstances, will not greatly modify or entirely prevent it.

The grand point in laying out orchards and gardens, is, to ascertain what sorts are most exposed to canker in any particular district, and to avoid them carefully; as the result of any extensive plantations, made without due caution in this respect, is sure to be disappointment and loss. Having ascertained this point by personal observation, care must be taken to select a situation as little exposed as possible to chilling winds; the ground must be well drained and the heads kept thin, that every portion may be well exposed to light; for it is a well ascertained fact that the disease often commences in ill ripened wood. If, however, unhappily a bad assortment was originally made, and the complete destruction of the orchard is out of the question, close pruning of all ill ripened shoots, and the covering with clay extensive cankered patches—which have been previously well cleared out with the knife, so as to promote the growth of healthy tissue from the edges—may be used as a mitigation of the evil, though nothing will entirely root it out.

Canada.

THE CANADIAN TIMBER TROPHY.

(From the Illustrated London News)

We do not pretend that the Canadian timber pyramid with its white birch bark canoe on top, and green draperies, as if in memory of the for ever departed leaves of its logs, forms a very ornamental object in the English end of the centre aisle; and in truth, at first we many times wished it at the back of the bay. By degrees, however, the appropriateness of its position has grown upon us. We have looked around on all the thousand gatherings of trade brought by wind or steam in huge ships from every seaboard in the world, and then at the canoe rightfully raised to view above them all: for in such trail vessels the first traders of the world paddled from creek to creek, and island to island exchanging fruits and skins, clubs and bows and arrows: and from such rude beginnings grew the spirit of enterprise, the desire of commerce, the daring love of sea adventure that now crowd the waters with the commercial navies of the world; from that shell of stitched bark has man by invention and indomitable industry, risen to his steam ship, conquering not alone the wind and waves but time and distance; and for the timber, although it does obstruct the view, and make but an uncouth sort of pile, it too is there rightfully enough, reminding us that even England a few centuries ago, was thick set with forests, and that the first work towards her present busy industry was to fell the old timber, and let the sunlight warm the earth. Man is no dweller in the woods; go where he may, the forest must bow before him: he clears a field for himself, and drives the plough into the soil, grows crops of annual provender for himself and his beasts of burden and fills the land with busy multitudes. We would have the visitors of the Exhibition therefore, pause a little by the timber trophy; it may remind them of the settlers in those regions—of those who go forth to found fresh centres of commerce: to face in strength of the hope of independence, the toils and difficulties of planting new regions. There is a log but look about the timber trophy that takes us to the back woods of Canada; to the prairies of the United States, and the vast park-like sheep ranges of Australia. In their new homes the industry that has felled the woods will push it away—will not alone grow corn and feed cattle and trade in timber, but will raise up mineral products from the earth's depths, and call machinery to its help, and organise industry, and have one day a thousand fruits of skill to show at some future Exhibition.

We have not yet had possession of Canada for a hundred years. It is set down amongst the discoveries of Sebastian Cabot in 1447. The French, it is asserted, made a map of a portion of the coast in 1508; in 1525, the country was formally taken possession of in the name of the King of France; in 1535, Cartier explored its river, and named it the St. Lawrence, from having on that saint's day first sailed upon its waters. The first settlement was in Quebec in 1603, and the country remained in possession of the French until the capture of that city by General Wolfe, in 1759; and by the treaty of Paris in 1763, the whole territory, comprising an area about three times as large as great Britain and Ireland, was ceded to England.

The Canada contributions at the exhibition, to be seen in the compartments opposite the timber trophy and a general view of which we have already given, are in themselves sufficient evidence, that, in this

England beyond the Atlantic, not alone land industry, but manufacturing skill and art-workmanship, have made progress; but still, vast regions even of the best lands are covered with forests. In 1844, the occupied land in East or Lower Canada amounted to 7,540,450 acres; of which 3,083,950 were cultivated, and 4,456,400 still unreclaimed and overgrown with wood. The great plain between Lakes Huron, Erie, and Ontario, comprising about 20,000 square miles, and the best grain country of any of the northern parts of America, is still for the most part covered with lofty forests. The Ottawa or Grand River, which joins the St. Lawrence near Montreal, forms almost entirely the division of the Canadas, and is the great highway so far of the timber trade, which along its banks employs from eight to ten thousand men—an army waging perpetual war with the forests, and which, under the false impulse of our former high differential duties in favour of Canadian timber, carried on its operations most wastefully and unfavourably for the character of the timber and the advance of the trade. Hitherto, white and red pine have formed the chief timber exports of Canada, felled mainly by the banks of the Ottawa, and floated in huge rafts down that river and the St. Lawrence, a distance of from 600 to 700 miles to Quebec. A single raft of timber will not unfrequently have a surface of three acres. The trees are cut down in winter, lopped, squared, dragged by horses over the frozen snow, which forms a slide for them to the water's edge. The rafts are formed upon the ice, on which when the spring thaw sets in, the lumberers, as these forest felling timber traders are called, float down to port, anchoring when they come within range at each rise of tide, and again pursuing their voyage at its fall. A raft seems almost as if some land-slip, or island, huts and all, were sailing down the river; it has five or six houses upon it, and when the wind sets fair, a range of broad thin boards serves for sails. Some of the white pine trees yield planks five feet in breadth, and the largest red pine will give 18-inch square logs, as much as 40 feet long. Of the red pine order is the hemlock a ship's futtock of which is seen in the trophy, and which it is said bears water well, and is of all the woods in those regions the most everlasting as railway sleepers, piles, or for any other underground purpose. But a single tree of the kind, which stands on a little island in the river St. Maurice, is to be found in all Eastern Canada.—The tree in close forests is drawn up frequently to more than sixty feet in height, but its best height is about 40 feet, and its diameter in such specimens is rather more than 2 feet. The specimen in the trophy was cut from a tree 15 feet in circumference and 50 feet high. Close by this hemlock is a thick plank of a beautifully feathered and highly polished dark wood, cut for veneers, from the fork of a black walnut—a timber extensively used in Canada for furniture, and some beautiful tables, sofas, chairs, beds, and a piano of which are in the compartments opposite them, and to be sold at the close of the Exhibition.—The tree from which this plank was obtained was an old giant of its kind, and judged by its size and internal appearance, though sound as a bell, had probably spread up its evergreen leaves to the sun for more than a thousand years. It stood in the valley of the Nanticoke, in the township of Walpole; and in the winter of 1847, Mr. Fisher having marked it for destruction, set up a shanty near it. Its circumference at the ground measured 37 feet, three feet up 23 feet, from which it tapered very little to 31 feet, where it branched into two trunks, 6 feet and 5 feet in diameter;

from this part the veneer plank was sawn. The whole tree cut up into 23 logs, and made in all more than 10 000 feet of timber. Three men were engaged a fortnight in felling and trimming this single tree. The walnut is a hard, close-grained wood, and it deserves trial, as it is to be had in immense quantities all over Canada whether it would not serve as well as mahogany for ship building. It is exported to the United States, but has not as yet entered into the timber trade with England. Another furniture wood in the trophy is curled maple in its wavy grain very like satin wood, not much differing from it in colour, and growing abundantly as the pine itself. It has also found its way to the United States largely, but in small quantities to England, though it is a hard wood, and admirably adapted for furniture. A bird's eye maple veneer is also shown. The finest bird's eye is from young trees of from twelve to fourteen inches diameter. As they grow old and large the spotted curl dies out from the centre; the veneer in the trophy was, however, shaved off from a large old tree by a peculiar kind of cutting machine, which saws or shaves off the veneer in a spiral round the log, commencing at the outside, and stopping where the bird's eye pattern ceases. There are, besides, two other sorts of maple shown, the plain hard maple, used largely in house building, ordinary furniture, and immense quantities for domestic firewood and steamboats. In Montreal alone there are consumed in a single season from 2 000,000 to 3 000,000 cords of firewood—a cord of wood being a bundle eight feet long, four feet high, and four feet broad, and costing thirteen shillings English money. Each family on an average uses about 20 cords in a season. The soft maple is but rarely cut down, as it supplies sugar abundantly. In spring, before the snow has left the ground when the sun begins to gain strength, and there is still a sharp morning frost, the farmer bores, about four or five feet up the trunk, a hole some two or three inches deep, and sticks a little cane spout in it. In a few hours he has in his wooden trough below from two to three gallons of sap; and every morning for a fortnight as the sap rises with the sun, the tree pours its sweetness until twenty or thirty gallons are collected. In a spring without frost the supply of sugar fails and its collection is a work of no small hardship. Its after preparation is a rude process; it is evaporated to some extent, over a slow fire, and then poured out in pans to cool. The sugar maple grows from forty to fifty feet high and about six feet in circumference. The other timbers in the trophy are more generally known. The birch tree a favourite town plantation, is used in common furniture, and the timber is largely exported to the States. The oak, both white and red, is exported as staves both to America and England, and so is the ash of which Canada can furnish inexhaustible supplies. The basswood is new to us, but it seems, has been proved so useful at home that it may be imported with advantage. It is a soft wood, but close grained and durable, something resembling our willow, and has been found most excellent in doors, and the panneling of railway carriages. The rock elm is also a new import; it grows apparently from the bare rock to a height of 30 to 60 feet, and 18 to 20 inches in diameter, a tough durable wood, and deserving trial for ship-building purposes; and the butter-nut growing on fine dry land, and most of all a favourite, both in the States and Canada, for veneering upon, as with ordinary seasoning it is never known to warp. Last on our list is a little log on the floor, with light edges and a dark centre, marked iron-wood, of no earthly use, said our native informant: "It won't

float, it's the contrariest wood in creation; if you want a straight piece, and half break your heart with hard work to get it, it will twist itself crooked in no time, and if you make out a crooked piece, as sure as sunshine it will stretch out as straight as a line, it's hard as iron and as heavy as lead, and as obstinate and cranky as an old mule, and never worth either letting grow or cutting down."

Our contemporary of the *North American* commenting on the above article says:—

[We should like to see some of the sugar made, as the *News* informs us, from "soft maple." We recollect an incident which occurred a few years ago, when we, instead of sitting in the Editorial chair, were at work in the "Sugar bush." An English Gentleman, travelling through Canada, visited the "Camp" to see how sugar was made. The "tapping" process was explained to him, the sugar maple pointed out, the mode of "boiling down," "sugaring off," &c. After some time he took up an axe, and with a friend equally verdant, started out to try his hand at "tapping." He selected a large pine, which stood in the vicinity, and hacked away until the turpentine oozed forth to his infinite delight. He was not a little surprised however to find the juice so thick without boiling, and "so slightly saccharine!" Now, this gentleman, or some one of about equal experience, must have been the *News*' "native informant." The rigmarole about the "iron wood" is nearly as wide of the mark.—Ed. N. A.]

THE ART OF FLYING.—A French journal has a letter from Madrid giving an account of a successful experiment with a new apparatus for flying. The flyer was a Miss Janita Perez, who though rather fat and corpulent, moved through the air, by the help of the wings, with great ease and rapidity. She was advertised to fly a distance of above 1200 feet, rising in the air above 600, but exceeded the programme both in height and distance. No description of the structure of the wing is given. They have a spread of some 15 feet, are fastened by ligaments of great flexibility, and arranged so as to move with great rapidity; they make a noise like a wind-mill. The astonishment of Madrid at so novel a phenomenon is described as immense.

A Mr. Pios. Darville, at Paris, also announces that he has invented a complete apparatus for flying, and that he proposes to exhibit at the Champ de Mars in the course of the present month, when he will fly from the Military School to Chailiot. He will be accompanied by his two sons, one of 22 and the other of 17 years. The preparation of three sets of wings has delayed the exhibition until now. The inventor has tried his apparatus privately, with complete success, having flown across the Seine with it at 1 o'clock in the morning. His wings have a spread of 15 feet, and by their help the flyer can move up and down in the air with all the facility of a swallow, skimming along near the ground, or mounting upright to the sky, at his pleasure.—*New York Tribune*.

LARGE CARGO OF FRUIT.—A schooner arrived at New York from Baracoa, on Wednesday, bringing 12,298 pine-apples, nearly 12,000 plantains, 9,000 coconuts, about 10,000 bananas, and over 1,500 boxes of oranges.

The Woodworth Patent Outdoor.

A GREAT INVENTION.—Of all the labor-saving improvements of the day—and their names are legion—we have seen nor heard of none that in point of utility will compare with one which we had the pleasure to see in operation day before yesterday, at Townsend's furnace, where it was built. It is a machine for planing wood, invented by Mr. J. Beardsley, and patented by him.

We shall not attempt to describe the particular process by which it achieved such wonders. A satisfactory idea of the invention can only be formed by seeing it at work. Though simple in its construction, and easily comprehended at a glance, it is difficult to convey a clear understanding of the *modus operandi* on paper. It will be sufficient perhaps to say that nothing heretofore invented, approaches it, either in respect to the speed with which it does the work, or the accuracy of surface and finish it gives to every thing and anything which passes through it in the shape of a plank or board. A rough board placed within its vortex, comes out as even and polished as a mirror, to the tune of 108 feet a minute—and this, without driving the machine. Its maximum capacity is double and even treble this speed—and the greater the power and rapidity of the working, the more perfect is its execution. We can well believe that it will turn out work at the rate of 200 and even 300 feet per minute—or as fast as it can be fed.

In this respect, it outstrips the famous Woodworth patent, and promises to supercede it entirely. The maximum capacity of that machine, we are told, is 30 to 40 feet per minute. Such as are interested in the progress of improvement will see in this something new and strange, and well worth inspection and study. The inventor may be seen at Townsend's furnace at any time, to exhibit the power of his machine to all visitors.—*Albany Argus.*

THE KEROSENE GAS.—Mr. McAusland has been taking advantage of the temporary discontinuance of the coal gas lights and the dark nights, to make his experiments with Dr. Gesner's patent retort and apparatus, and he has undoubtedly established the superiority and purity of the gas generated. Large numbers of persons have witnessed with much satisfaction, the experiments made during the week, and our contemporaries have all borne testimony to the excellence of the light. We join in the hope expressed, that Mr. McAusland may reap the reward to which his exertions so justly entitle him.—*St. Johns N. F. Courier.*

A brace of beautiful grey cranes, of the most gigantic proportions, measuring from 6 to 7 feet from tip to tip of the wings, and a like distance from the beak to the heels, were killed on Mr. Ewart's mill-dam in Galt on Wednesday evening. They were the most perfect and beautiful of their race we have ever seen, far exceeding in size and elegance of plumage, European birds of like sort.

TO PRESERVE HAMS THROUGH SUMMER.—Make a number of cotton bags a little larger than your hams; after the hams are well smoked, place them in the bags; then get the very best sweet made hay, cut it with a cutting-box or knife, with your hands press it well around the ham in the bag, tie your bags with good strings, put on a card the year to show their age, and hang them up in your garret, or some dry place, and my word for it, you let them hang for five years, they will be better than on the day you put them up. I have kept them for seven years. This method costs but little, as the bag will last for years. The only loss is the hay, and that the cattle will eat if you give it to them in the winter. The sweating of the hams will be taken up by the hay, and it will also impart a very fine flavor to the meat.

TO KEEP BIRDS FROM PICKING FRUITS.—As the season is coming on for the depredations of birds I beg leave to report my experience of last year, when I saved my currants and gooseberries by winding colored worsted around and across my bushes, and my cherries by hanging up several pieces of tin with strong thread in the different trees, two pieces being hung near enough together to clash with the wind, which sounds with the bright reflection of tin in the sun, certainly frightened them away; and I had my due share of fruit, which the preceding year I was obliged to relinquish to them.—*Agricultural Gazette.*

NEW CEMENT FOR EARTHEN WARE.—Take a piece of wheaten flour dough, and knead and work it under water till the starch is all worked out and the water comes clean. The remainder is gluten. Put this into some vessel, keep it in a warm and damp place, like a cellar; and when it has undergone the putrefactive fermentation, which may be known by its becoming pasty and giving off an offensive smell, apply it to the edges of the broken articles and confine till dry. If the edges are free from grease and fresh broken, neither heat nor hot water effects it. This receipt is peddled as a secret.

TO PRESERVE BEEF STEAKS.—As the warm season is fast approaching, when meat cannot be kept for more than a day or two in a fresh state, it will be of no inconsiderable benefit to many to be informed, that if fresh meat is rolled up in Indian corn meal, it will keep fresh for four or five days. The steak should be laid down in pieces from one to three pounds, and each piece covered entirely with the meal.

CALVES.—Pimento (Allspice) tea has been proved a sovereign remedy for Diarrhoea in Calves. Two table-spoonsful of ground pimento put into three gills of boiling water, is sufficient for a portion, and should be given once in 12 hours, till relieved.

NUMBER OF SHEEP IN THE UNITED STATES.—According to the last census the number of sheep in the United States amounted to 25 millions, producing 60 million lbs. of wool, which at 30 cents per lb. would give 18 millions of dollars.

THE PARSONAGE.—We noticed with delight in Great Britain, that among the warmest devotees of Horticulture and rural taste generally, are the country Clergymen. Their homes are always pictures comfort, snugness, and beauty; and thus exercise a more powerful influence in disseminating a love of rural life among the Agricultural population than the Castles and Mansions of the great proprietors.—*Downing in Horticulturist.*

STATE OF THE CROPS.

From almost all parts we hear but one account of the crops, and that must be regarded, upon the whole as very satisfactory. The frequent thunder showers by which the present summer has been characterised, caused a rapid growth of all spring crops. Hay, however, has in consequence been somewhat injured in the making, and we hear that rust among wheat has proved injurious in some localities, although not to any great extent. The weevil in some places has committed ravages in the wheat, but that crop must be pronounced abundant in most parts of Upper Canada, and will be safely housed in the course of another week or ten days, if the weather continue fine. Potatoes, turnips and the root crops generally are making great progress; the potatoes have been looking very healthy, although we have seen in a few instances indications of decay in the centre of the tubers. The latest accounts from England are of a promising character, and a decided decline in prices has in consequence been the result.—*August 2nd.*

Some remarks on the cultivation of flax must, for want of room, stand over till our next.

THRASHING MACHINE.



Time and Labor Saved are Money Earned.

THE SUBSCRIBERS having secured to themselves the exclusive right of manufacturing and vending to others to use within the territory of Upper and Lower Canada,

SEVERANCE'S CELEBRATED IMPROVED HORSE POWER & THRASHING MACHINE one of the most valuable time and labour saving Machines ever devised by human ingenuity, respectfully inform the public that they have just completed a new and extensive Factory on Wellington Street, extending from Prince to George Street, which gives them more than double the accommodation they had in the old shops, which will hereafter, they trust, enable them to supply the whole farming community of the United Provinces with a Machine that will thrash and clean more grain in a day, with less expense and with greater cleanliness, than any other known invention—only requiring two horses.

We beg leave to say to our customers and friends, that we are again prepared to furnish those in want of Thrashing Machines with an article superior even to those heretofore manufactured by us.

Our long experience in making and the very liberal patronage we have enjoyed in the sale of our Machines, has, together with a constant determination to produce an article that will never fail to excel all others, caused us to watch carefully all the improvements that could be made from time to time, until now we feel confident in saying, that for durability, neatness of work, and amount of it they can do, our

Thrashing Machines are unequalled by any in use. And while the grain is thrashed clean and none of it broken or wasted, it is at the same time perfectly cleaned, fit for the mill or any market.

All orders addressed to us or our Agent, Wm. Johnson, will be promptly attended to.

Machines shipped to any port in Canada, and every one warranted to be as good as recommended.

Liberal terms of payment allowed.

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Whereas, Letters Patent were obtained, bearing date March 5, 1849, on said Machine, the public are cautioned against purchasing, using or manufacturing any imitation article, as all infringements will be dealt with according to the law of the land.

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Agent at Hamilton, Mr. Raswell Wilson.

Toronto, July 15th, 1851.

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White on Cattle Medicine.
Carter and Youatt's Cattle Doctor.
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